Team09 Lab3 Report

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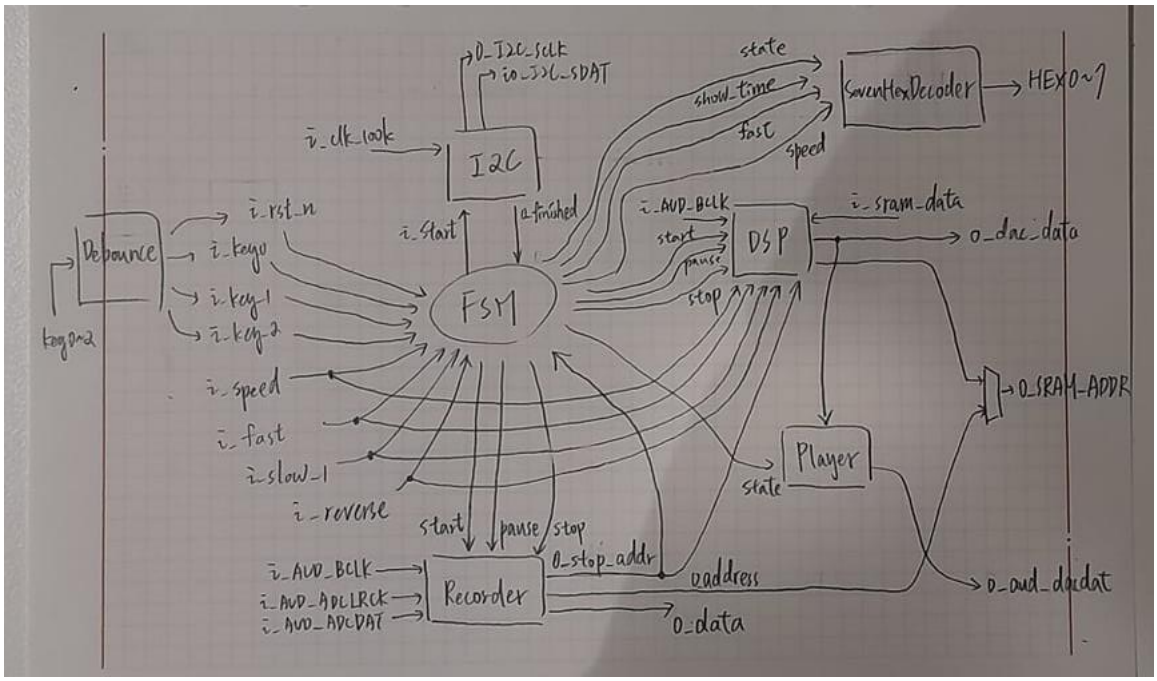
層級架構

module DE2_115

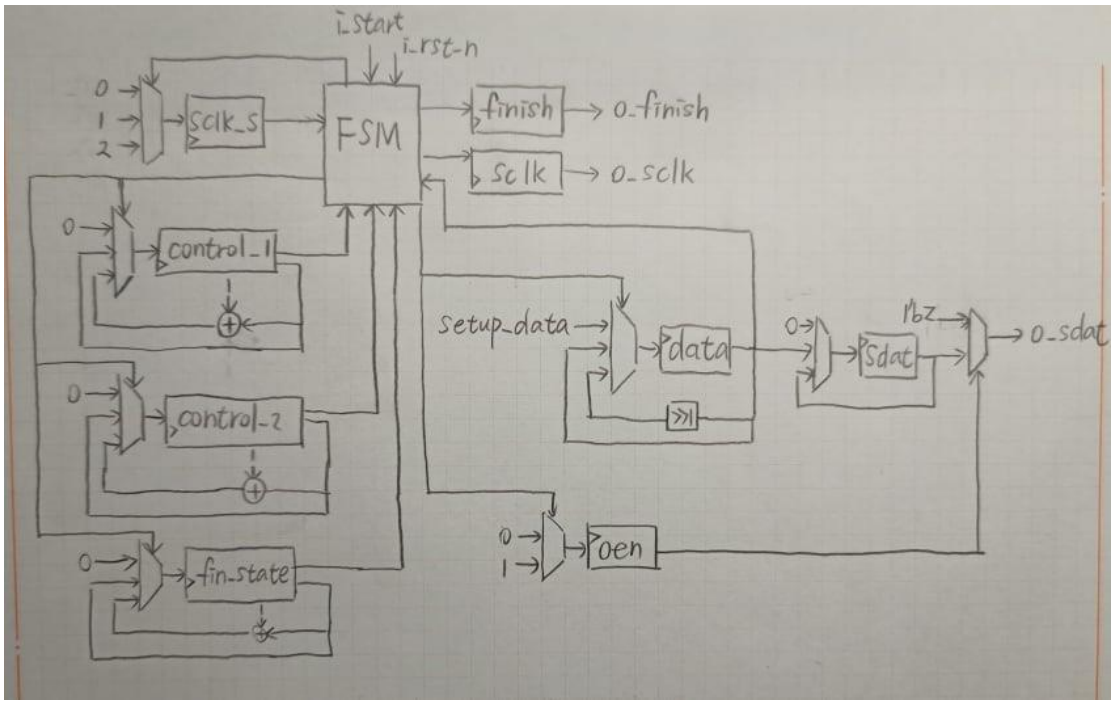
- |__ pll
- |__ Debounce * 3
- |__ SevenHexDecoder * 3
- |__ Top
  - |__ I2cInitializer
  - |__ AudDSP
  - |__ AudPlayer
  - |__ AudRecorder

Block Diagram

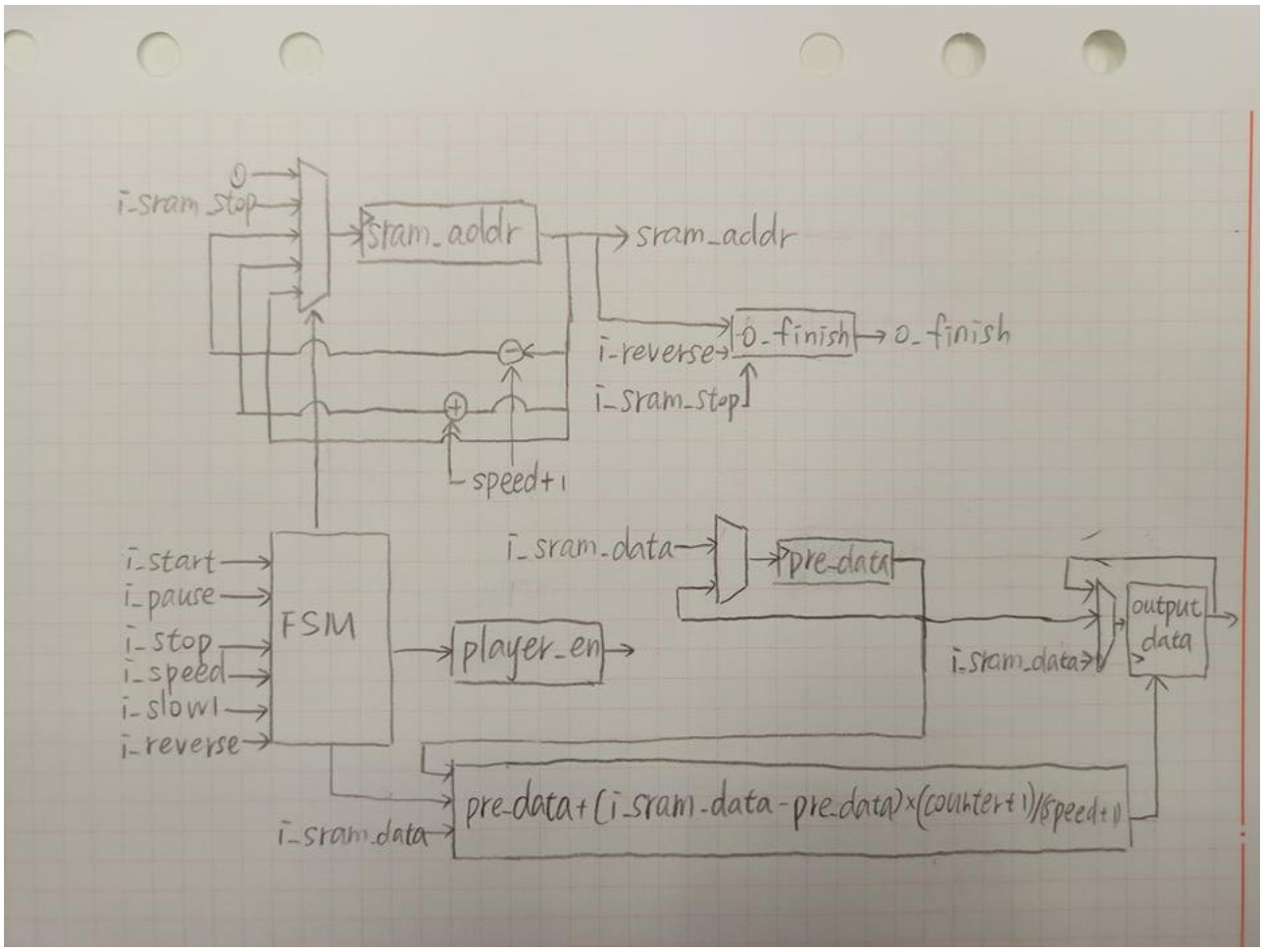
Top



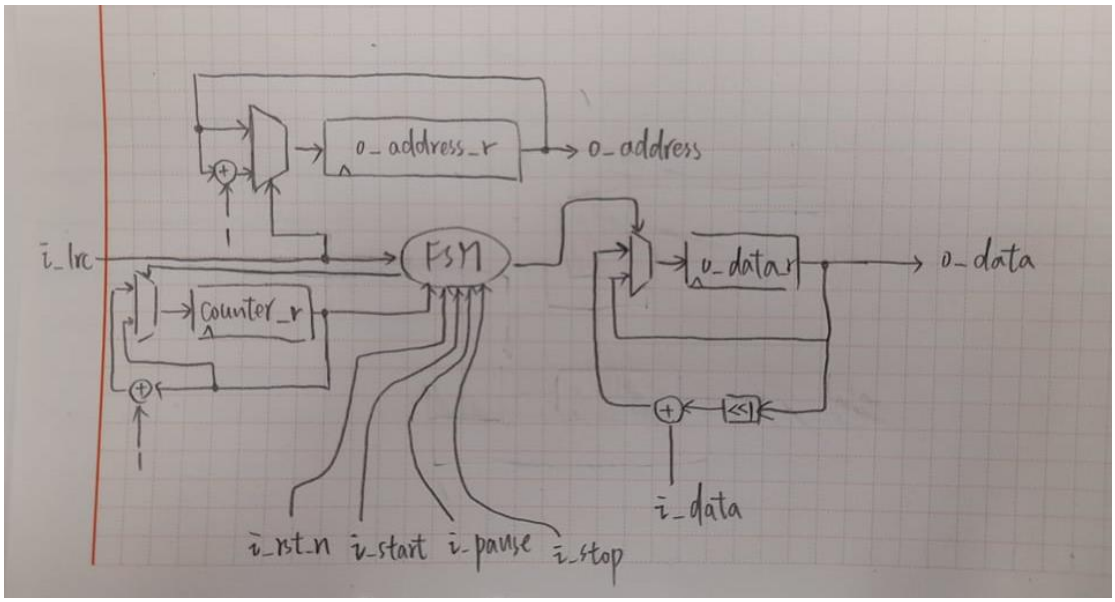
I2cInitializer



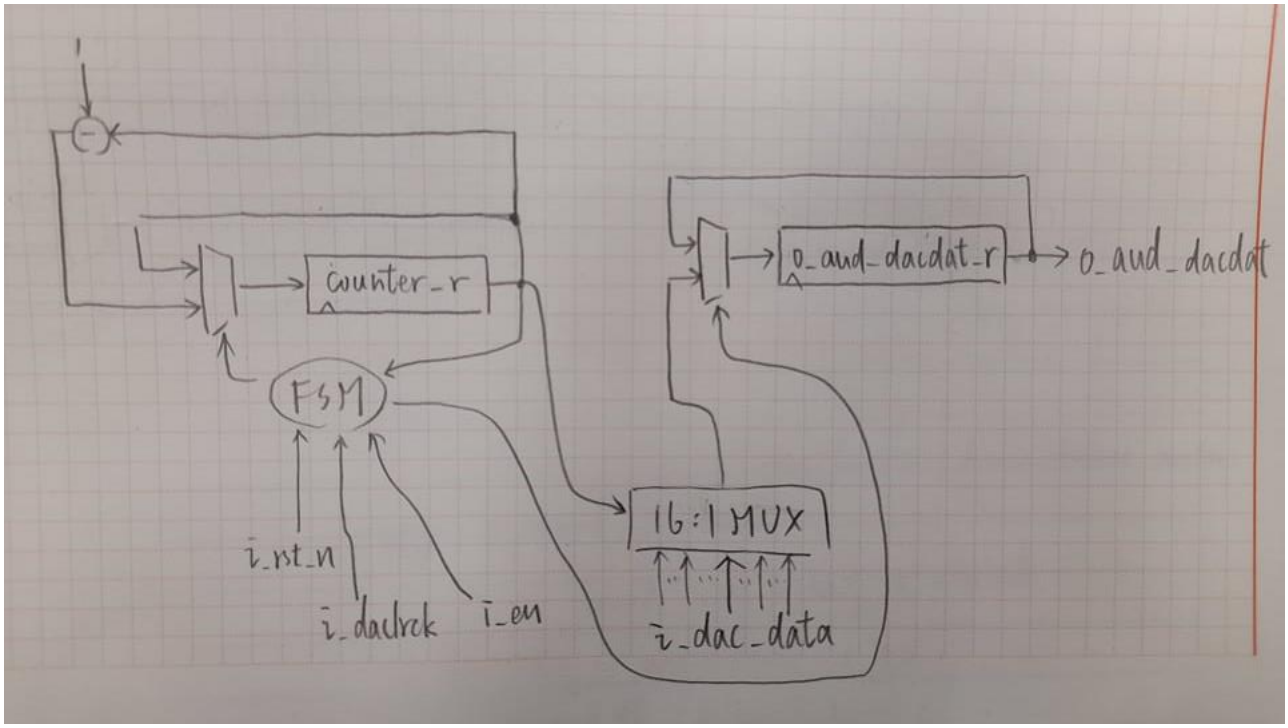
AudDSP



AudRecorder

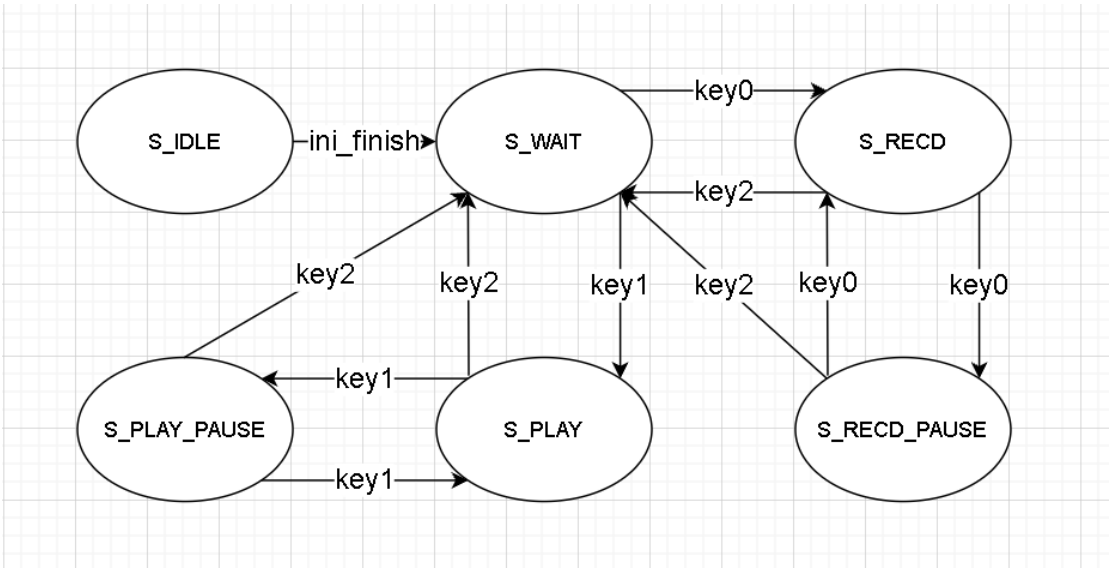


AudPlayer

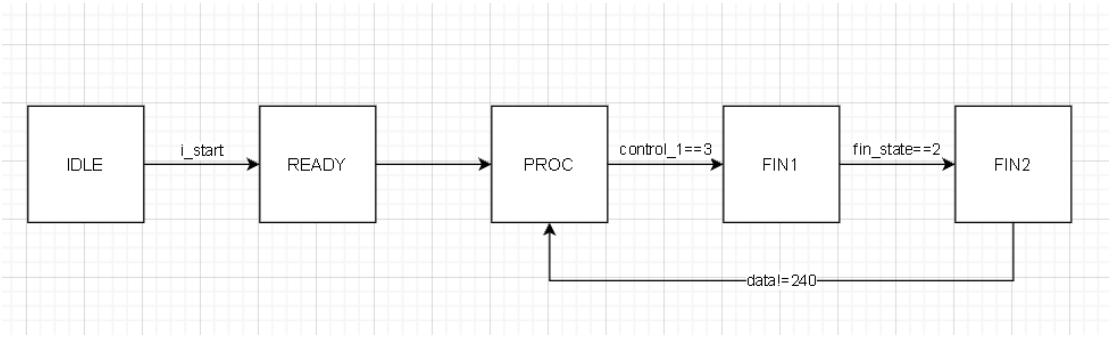


FSM or Scheduling

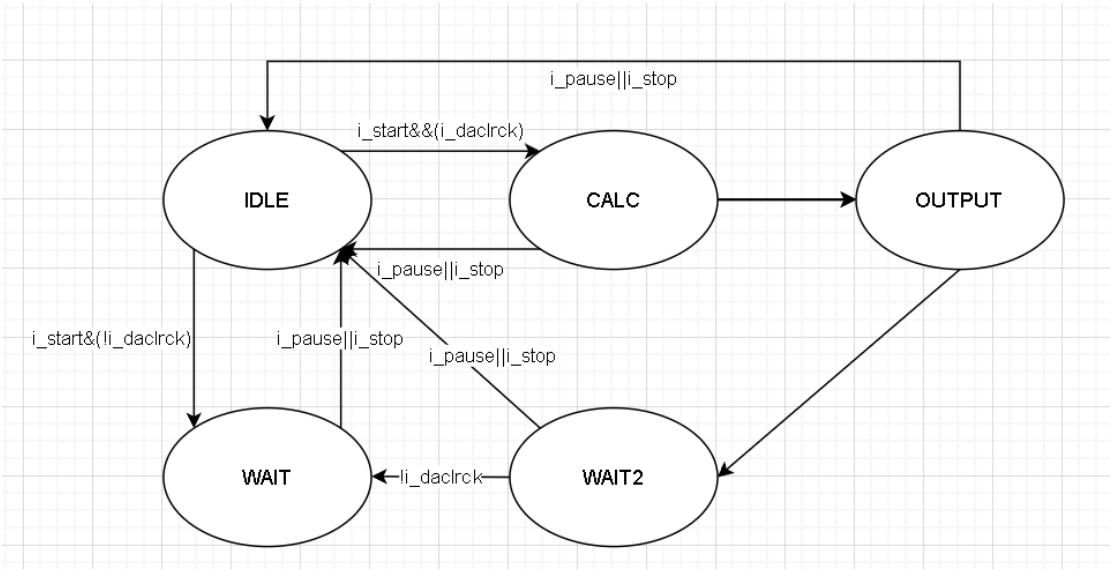
Top



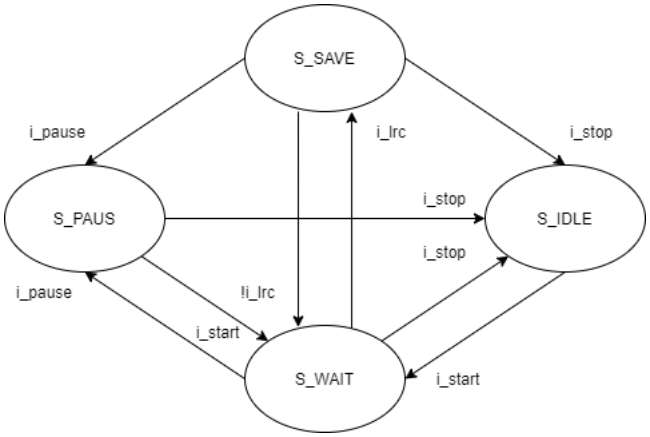
I2cInitializer



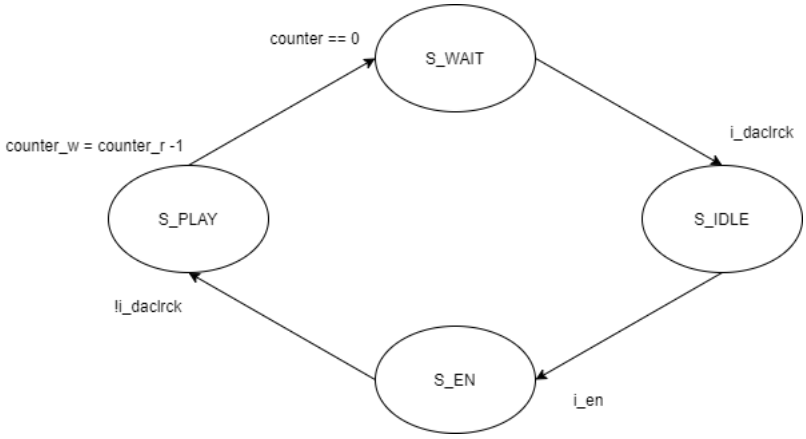
AudDSP



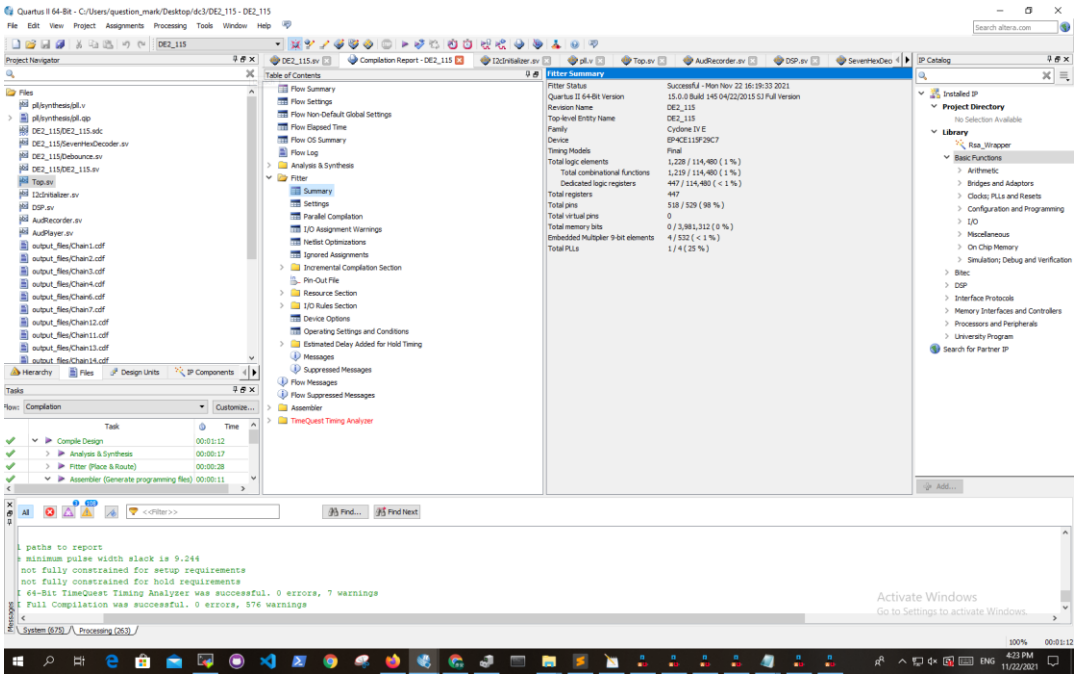
AudRecorder



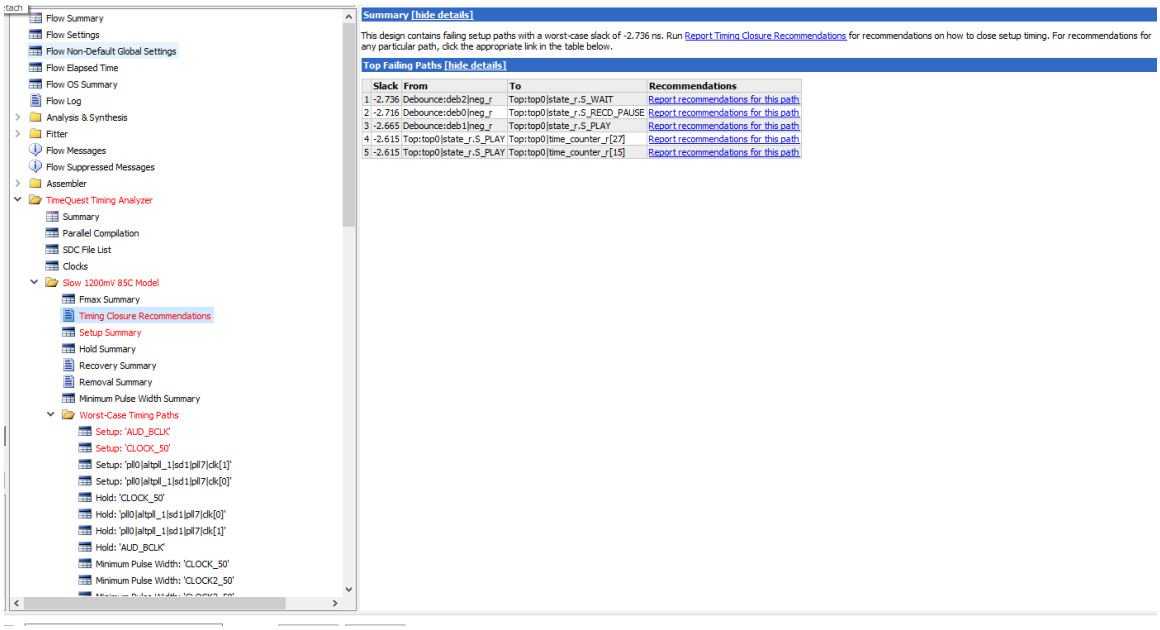
AudPlayer

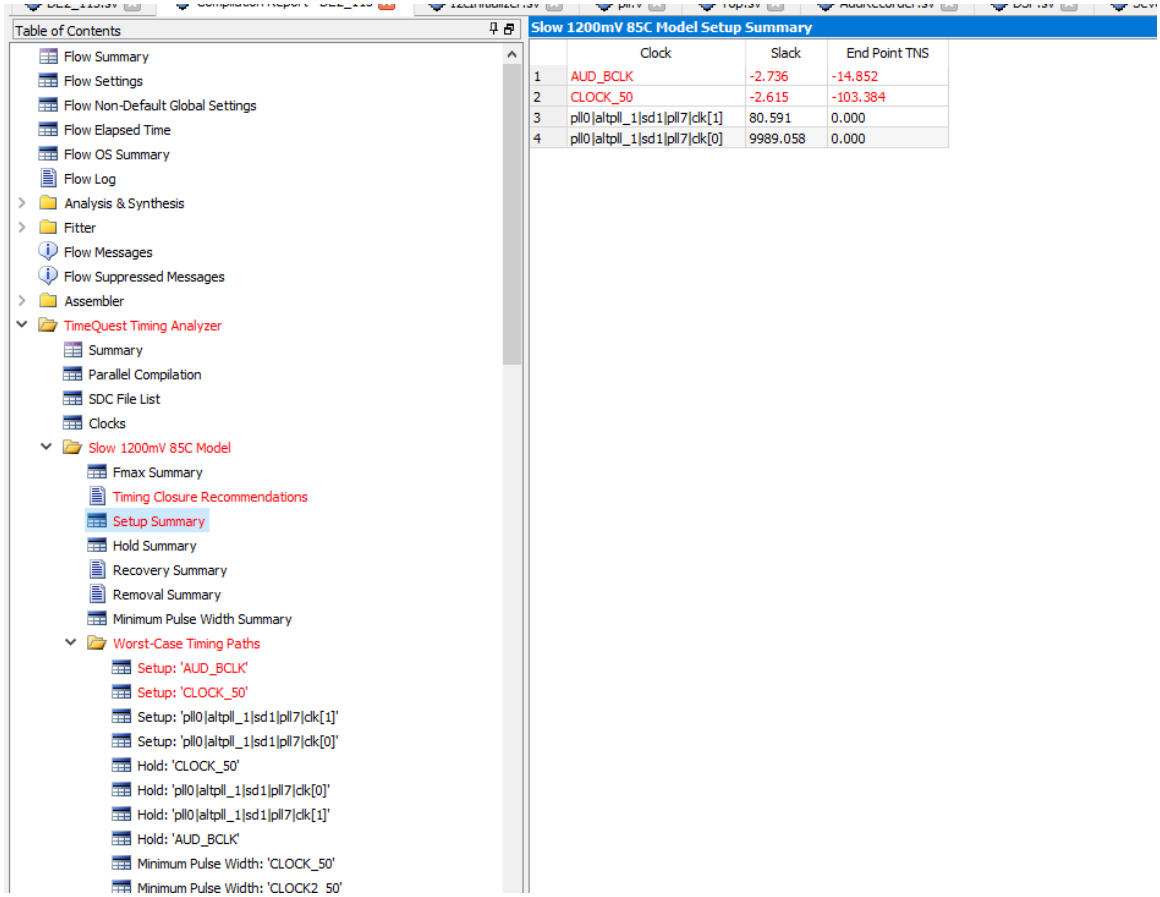


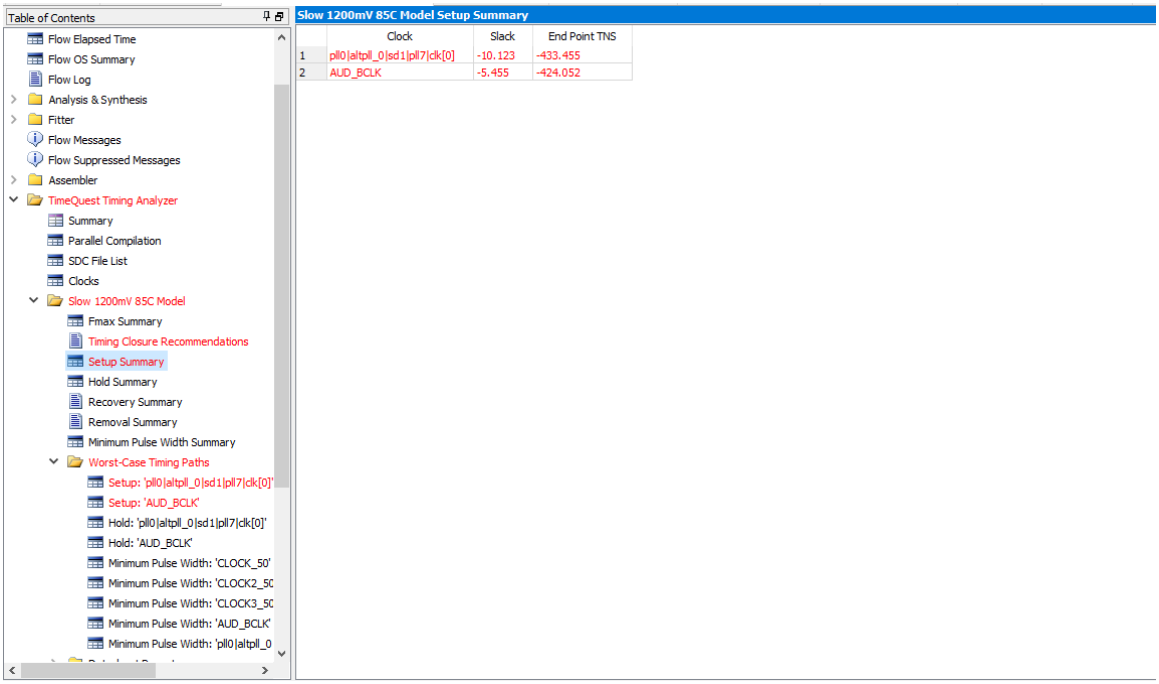
Fitter Summary 截圖



Timing Analyzer 截圖



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Hold: 'pll0|altpll_0|sd1|pll7|clk[0]'
Hold: 'AUD_BCLK'
Minimum Pulse Width: 'CLOCK_50'
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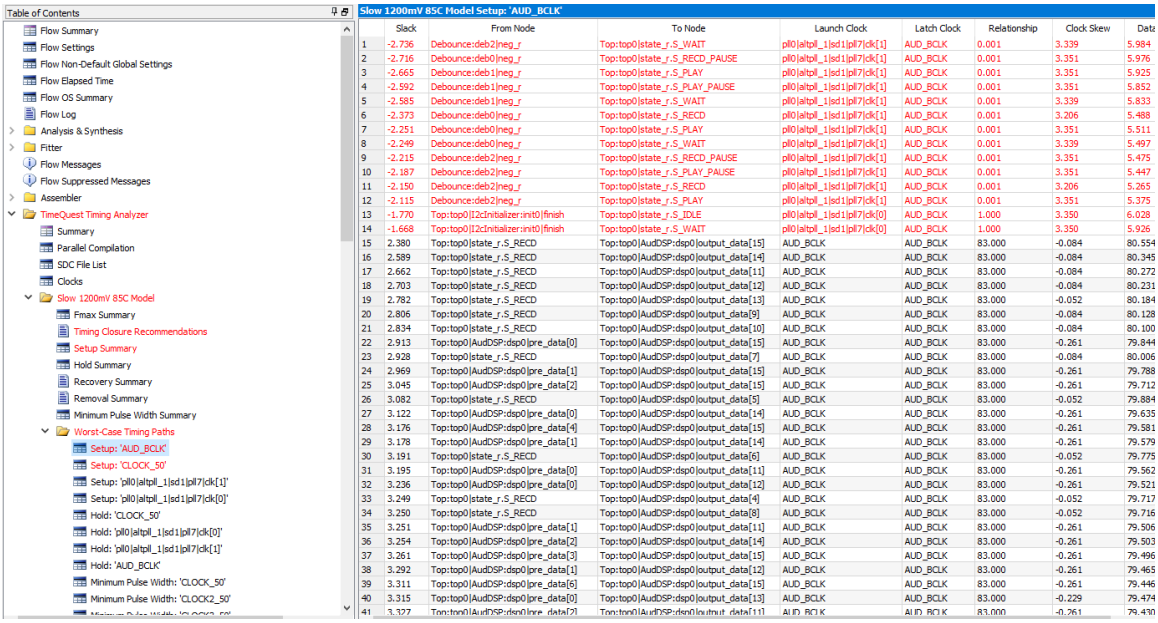
Minimum Pulse Width: 'CLOCK3_50'
Minimum Pulse Width: 'AUD_BCLK'
Minimum Pulse Width: 'pll0|altpll_0
Slow 1200mV 85C Model Setup Summary
Clock
Slack
End Point TNS
1 pll0|altpll_0|sd1|pll7|clk[0] -10.123 -433.455
2 AUD_BCLK -5.455 -424.052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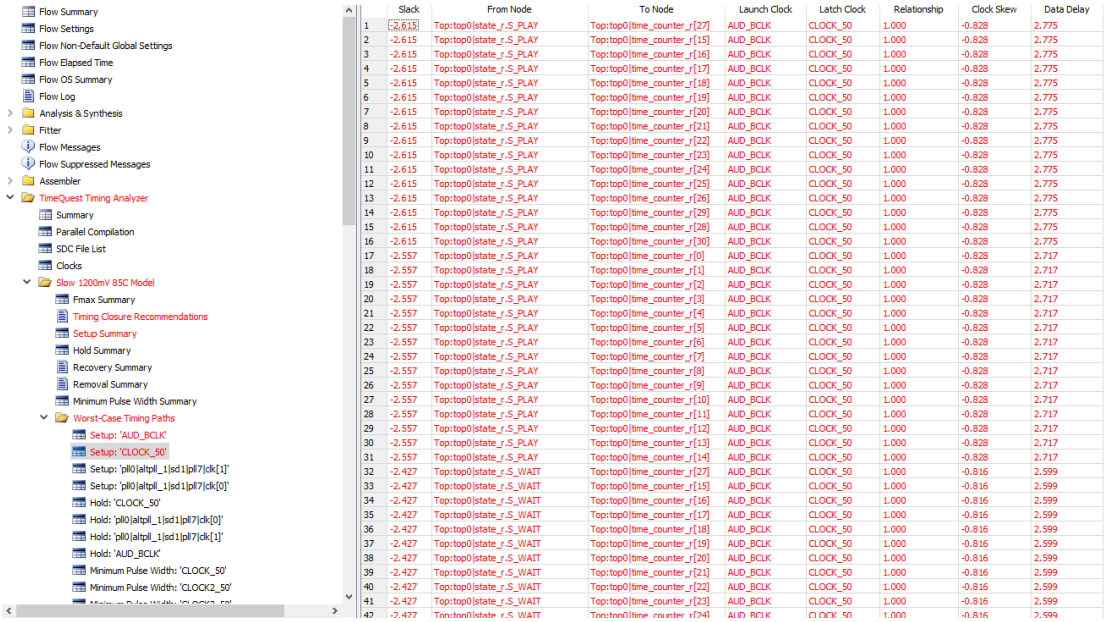
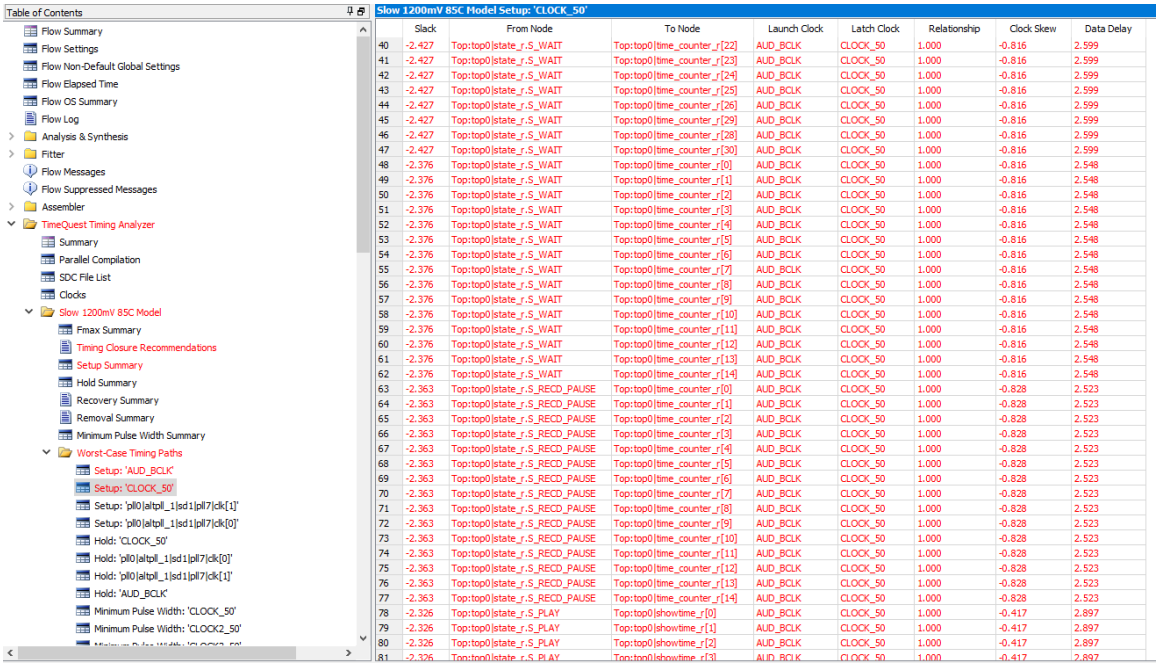
Slow 1200mV 85C Model Setup: 'AUD_BCLK'
Slack
From Node
To Node
Launch Clock
Latch Clock
Relationship
Clock Skew
1 -2.736 Debounce:deb2|neg_r Top:top0|state_r.S_WAIT pll0|altpll_1|sd1|pll7|clk[1] AUD_BCLK 0.001 3.339 5.984
2 -2.716 Debounce:deb0|neg_r Top:top0|state_r.S_RECD_PAUSE pll0|altpll_1|sd1|pll7|clk[1] AUD_BCLK 0.001 3.351 5.976
3 -2.665 Debounce:deb1|neg_r Top:top0|state_r.S_PLAY pll0|altpll_1|sd1|pll7|clk[1] AUD_BCLK 0.001 3.351 5.925
4 -2.592 Debounce:deb1|neg_r Top:top0|state_r.S_PLAY_PAUSE pll0|altpll_1|sd1|pll7|clk[1] AUD_BCLK 0.001 3.351 5.852
5 -2.585 Debounce:deb1|neg_r Top:top0|state_r.S_WAIT pll0|altpll_1|sd1|pll7|clk[1] AUD_BCLK 0.001 3.339 5.833
6 -2.373 Debounce:deb0|neg_r Top:top0|state_r.S_RECD pll0|altpll_1|sd1|pll7|clk[1] AUD_BCLK 0.001 3.206 5.488
7 -2.251 Debounce:deb0|neg_r Top:top0|state_r.S_PLAY pll0|altpll_1|sd1|pll7|clk[1] AUD_BCLK 0.001 3.351 5.511
8 -2.249 Debounce:deb0|neg_r Top:top0|state_r.S_WAIT pll0|altpll_1|sd1|pll7|clk[1] AUD_BCLK 0.001 3.339 5.497
9 -2.215 Debounce:deb2|neg_r Top:top0|state_r.S_RECD_PAUSE pll0|altpll_1|sd1|pll7|clk[1] AUD_BCLK 0.001 3.351 5.475
10 -2.187 Debounce:deb2|neg_r Top:top0|state_r.S_PLAY_PAUSE pll0|altpll_1|sd1|pll7|clk[1] AUD_BCLK 0.001 3.351 5.447
11 -2.150 Debounce:deb2|neg_r Top:top0|state_r.S_RECD pll0|altpll_1|sd1|pll7|clk[1] AUD_BCLK 0.001 3.206 5.265
12 -2.115 Debounce:deb2|neg_r Top:top0|state_r.S_PLAY pll0|altpll_1|sd1|pll7|clk[1] AUD_BCLK 0.001 3.351 5.375
13 -1.770 Top:top0|I2cInitializer:init0|finish Top:top0|state_r.S_IDLE pll0|altpll_1|sd1|pll7|clk[0] AUD_BCLK 1.000 3.350 6.028
14 -1.668 Top:top0|I2cInitializer:init0|finish Top:top0|state_r.S_WAIT pll0|altpll_1|sd1|pll7|clk[0] AUD_BCLK 1.000 3.350 5.926
15 2.380 Top:top0|state_r.S_RECD Top:top0|AudDSP:dsp0|output_data[15] AUD_BCLK AUD_BCLK 83.000 -0.084 80.554
16 2.589 Top:top0|state_r.S_RECD Top:top0|AudDSP:dsp0|output_data[14] AUD_BCLK AUD_BCLK 83.000 -0.084 80.345
17 2.662 Top:top0|state_r.S_RECD Top:top0|AudDSP:dsp0|output_data[11] AUD_BCLK AUD_BCLK 83.000 -0.084 80.272
18 2.703 Top:top0|state_r.S_RECD Top:top0|AudDSP:dsp0|output_data[12] AUD_BCLK AUD_BCLK 83.000 -0.084 80.231
19 2.782 Top:top0|state_r.S_RECD Top:top0|AudDSP:dsp0|output_data[13] AUD_BCLK AUD_BCLK 83.000 -0.052 80.184
20 2.806 Top:top0|state_r.S_RECD Top:top0|AudDSP:dsp0|output_data[9] AUD_BCLK AUD_BCLK 83.000 -0.084 80.128
21 2.834 Top:top0|state_r.S_RECD Top:top0|AudDSP:dsp0|output_data[10] AUD_BCLK AUD_BCLK 83.000 -0.084 80.100
22 2.913 Top:top0|AudDSP:dsp0|pre_data[0] Top:top0|AudDSP:dsp0|output_data[15] AUD_BCLK AUD_BCLK 83.000 -0.261 79.844
23 2.928 Top:top0|state_r.S_RECD Top:top0|AudDSP:dsp0|output_data[7] AUD_BCLK AUD_BCLK 83.000 -0.084 80.006
24 2.969 Top:top0|AudDSP:dsp0|pre_data[1] Top:top0|AudDSP:dsp0|output_data[15] AUD_BCLK AUD_BCLK 83.000 -0.261 79.788
25 3.045 Top:top0|AudDSP:dsp0|pre_data[2] Top:top0|AudDSP:dsp0|output_data[15] AUD_BCLK AUD_BCLK 83.000 -0.261 79.712
26 3.082 Top:top0|state_r.S_RECD Top:top0|AudDSP:dsp0|output_data[5] AUD_BCLK AUD_BCLK 83.000 -0.052 79.884
27 3.122 Top:top0|AudDSP:dsp0|pre_data[0] Top:top0|AudDSP:dsp0|output_data[14] AUD_BCLK AUD_BCLK 83.000 -0.261 79.635
28 3.176 Top:top0|AudDSP:dsp0|pre_data[4] Top:top0|AudDSP:dsp0|output_data[15] AUD_BCLK AUD_BCLK 83.000 -0.261 79.581
29 3.178 Top:top0|AudDSP:dsp0|pre_data[1] Top:top0|AudDSP:dsp0|output_data[14] AUD_BCLK AUD_BCLK 83.000 -0.261 79.579
30 3.191 Top:top0|state_r.S_RECD Top:top0|AudDSP:dsp0|output_data[6] AUD_BCLK AUD_BCLK 83.000 -0.052 79.775
31 3.195 Top:top0|AudDSP:dsp0|pre_data[0] Top:top0|AudDSP:dsp0|output_data[11] AUD_BCLK AUD_BCLK 83.000 -0.261 79.562
32 3.236 Top:top0|AudDSP:dsp0|pre_data[0] Top:top0|AudDSP:dsp0|output_data[12] AUD_BCLK AUD_BCLK 83.000 -0.261 79.521
33 3.249 Top:top0|state_r.S_RECD Top:top0|AudDSP:dsp0|output_data[4] AUD_BCLK AUD_BCLK 83.000 -0.052 79.717
34 3.250 Top:top0|state_r.S_RECD Top:top0|AudDSP:dsp0|output_data[8] AUD_BCLK AUD_BCLK 83.000 -0.052 79.716
35 3.251 Top:top0|AudDSP:dsp0|pre_data[1] Top:top0|AudDSP:dsp0|output_data[11] AUD_BCLK AUD_BCLK 83.000 -0.261 79.506
36 3.254 Top:top0|AudDSP:dsp0|pre_data[2] Top:top0|AudDSP:dsp0|output_data[14] AUD_BCLK AUD_BCLK 83.000 -0.261 79.503
37 3.261 Top:top0|AudDSP:dsp0|pre_data[3] Top:top0|AudDSP:dsp0|output_data[15] AUD_BCLK AUD_BCLK 83.000 -0.261 79.496
38 3.292 Top:top0|AudDSP:dsp0|pre_data[1] Top:top0|AudDSP:dsp0|output_data[12] AUD_BCLK AUD_BCLK 83.000 -0.261 79.465
39 3.311 Top:top0|AudDSP:dsp0|pre_data[6] Top:top0|AudDSP:dsp0|output_data[15] AUD_BCLK AUD_BCLK 83.000 -0.261 79.446
40 3.315 Top:top0|AudDSP:dsp0|pre_data[0] Top:top0|AudDSP:dsp0|output_data[13] AUD_BCLK AUD_BCLK 83.000 -0.229 79.474

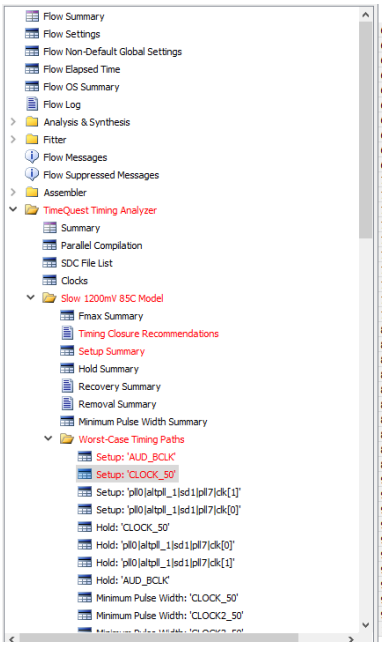


	Slack	From Node	To Node	Launch Clock	Latch Clock	Relationship	Clock Skew	Data Delay
1	-2.615	Top:top0|state_r.S_PLAY	Top:top0|time_counter_r[27]	AUD_BCLK	CLOCK_50	1.000	-0.828	2.775
2	-2.615	Top:top0|state_r.S_PLAY	Top:top0|time_counter_r[15]	AUD_BCLK	CLOCK_50	1.000	-0.828	2.775
3	-2.615	Top:top0|state_r.S_PLAY	Top:top0|time_counter_r[16]	AUD_BCLK	CLOCK_50	1.000	-0.828	2.775
4	-2.615	Top:top0|state_r.S_PLAY	Top:top0|time_counter_r[17]	AUD_BCLK	CLOCK_50	1.000	-0.828	2.775
5	-2.615	Top:top0|state_r.S_PLAY	Top:top0|time_counter_r[18]	AUD_BCLK	CLOCK_50	1.000	-0.828	2.775
6	-2.615	Top:top0|state_r.S_PLAY	Top:top0|time_counter_r[19]	AUD_BCLK	CLOCK_50	1.000	-0.828	2.775
7	-2.615	Top:top0|state_r.S_PLAY	Top:top0|time_counter_r[20]	AUD_BCLK	CLOCK_50	1.000	-0.828	2.775
8	-2.615	Top:top0|state_r.S_PLAY	Top:top0|time_counter_r[21]	AUD_BCLK	CLOCK_50	1.000	-0.828	2.775
9	-2.615	Top:top0|state_r.S_PLAY	Top:top0|time_counter_r[22]	AUD_BCLK	CLOCK_50	1.000	-0.828	2.775
10	-2.615	Top:top0|state_r.S_PLAY	Top:top0|time_counter_r[23]	AUD_BCLK	CLOCK_50	1.000	-0.828	2.775
11	-2.615	Top:top0|state_r.S_PLAY	Top:top0|time_counter_r[24]	AUD_BCLK	CLOCK_50	1.000	-0.828	2.775
12	-2.615	Top:top0|state_r.S_PLAY	Top:top0|time_counter_r[25]	AUD_BCLK	CLOCK_50	1.000	-0.828	2.775
13	-2.615	Top:top0|state_r.S_PLAY	Top:top0|time_counter_r[26]	AUD_BCLK	CLOCK_50	1.000	-0.828	2.775
14	-2.615	Top:top0|state_r.S_PLAY	Top:top0|time_counter_r[29]	AUD_BCLK	CLOCK_50	1.000	-0.828	2.775
15	-2.615	Top:top0|state_r.S_PLAY	Top:top0|time_counter_r[28]	AUD_BCLK	CLOCK_50	1.000	-0.828	2.775
16	-2.615	Top:top0|state_r.S_PLAY	Top:top0|time_counter_r[30]	AUD_BCLK	CLOCK_50	1.000	-0.828	2.775
17	-2.557	Top:top0|state_r.S_PLAY	Top:top0|time_counter_r[0]	AUD_BCLK	CLOCK_50	1.000	-0.828	2.717
18	-2.557	Top:top0|state_r.S_PLAY	Top:top0|time_counter_r[1]	AUD_BCLK	CLOCK_50	1.000	-0.828	2.717
19	-2.557	Top:top0|state_r.S_PLAY	Top:top0|time_counter_r[2]	AUD_BCLK	CLOCK_50	1.000	-0.828	2.717
20	-2.557	Top:top0|state_r.S_PLAY	Top:top0|time_counter_r[3]	AUD_BCLK	CLOCK_50	1.000	-0.828	2.717
21	-2.557	Top:top0|state_r.S_PLAY	Top:top0|time_counter_r[4]	AUD_BCLK	CLOCK_50	1.000	-0.828	2.717
22	-2.557	Top:top0|state_r.S_PLAY	Top:top0|time_counter_r[5]	AUD_BCLK	CLOCK_50	1.000	-0.828	2.717
23	-2.557	Top:top0|state_r.S_PLAY	Top:top0|time_counter_r[6]	AUD_BCLK	CLOCK_50	1.000	-0.828	2.717
24	-2.557	Top:top0|state_r.S_PLAY	Top:top0|time_counter_r[7]	AUD_BCLK	CLOCK_50	1.000	-0.828	2.717
25	-2.557	Top:top0|state_r.S_PLAY	Top:top0|time_counter_r[8]	AUD_BCLK	CLOCK_50	1.000	-0.828	2.717
26	-2.557	Top:top0|state_r.S_PLAY	Top:top0|time_counter_r[9]	AUD_BCLK	CLOCK_50	1.000	-0.828	2.717
27	-2.557	Top:top0|state_r.S_PLAY	Top:top0|time_counter_r[10]	AUD_BCLK	CLOCK_50	1.000	-0.828	2.717
28	-2.557	Top:top0|state_r.S_PLAY	Top:top0|time_counter_r[11]	AUD_BCLK	CLOCK_50	1.000	-0.828	2.717
29	-2.557	Top:top0|state_r.S_PLAY	Top:top0|time_counter_r[12]	AUD_BCLK	CLOCK_50	1.000	-0.828	2.717
30	-2.557	Top:top0|state_r.S_PLAY	Top:top0|time_counter_r[13]	AUD_BCLK	CLOCK_50	1.000	-0.828	2.717
31	-2.557	Top:top0|state_r.S_PLAY	Top:top0|time_counter_r[14]	AUD_BCLK	CLOCK_50	1.000	-0.828	2.717
32	-2.427	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[27]	AUD_BCLK	CLOCK_50	1.000	-0.816	2.599
33	-2.427	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[15]	AUD_BCLK	CLOCK_50	1.000	-0.816	2.599
34	-2.427	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[16]	AUD_BCLK	CLOCK_50	1.000	-0.816	2.599
35	-2.427	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[17]	AUD_BCLK	CLOCK_50	1.000	-0.816	2.599
36	-2.427	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[18]	AUD_BCLK	CLOCK_50	1.000	-0.816	2.599
37	-2.427	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[19]	AUD_BCLK	CLOCK_50	1.000	-0.816	2.599
38	-2.427	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[20]	AUD_BCLK	CLOCK_50	1.000	-0.816	2.599
39	-2.427	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[21]	AUD_BCLK	CLOCK_50	1.000	-0.816	2.599
40	-2.427	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[22]	AUD_BCLK	CLOCK_50	1.000	-0.816	2.599
41	-2.427	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[23]	AUD_BCLK	CLOCK_50	1.000	-0.816	2.599
42	-2.427	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[24]	AUD_BCLK	CLOCK_50	1.000	-0.816	2.599

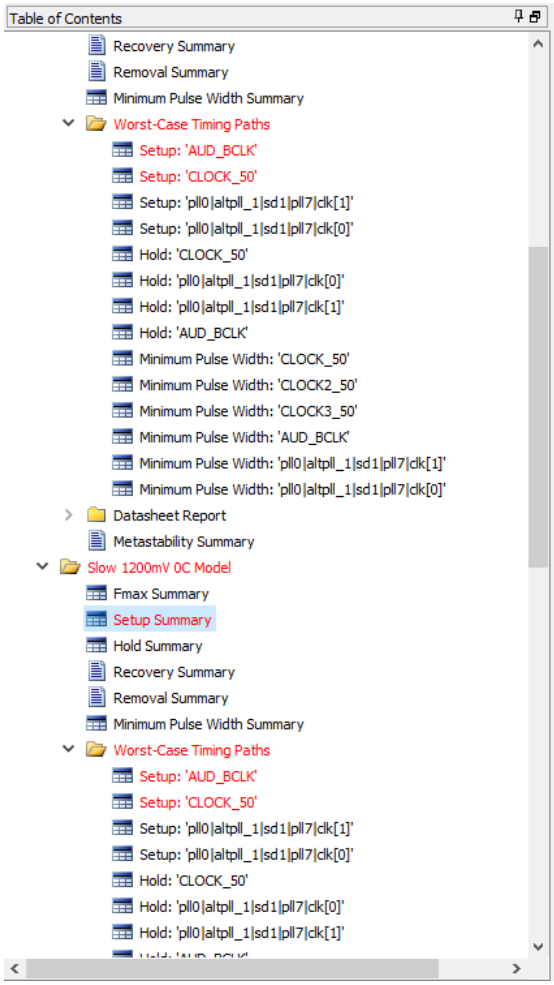


Slow 1200mV 85C Model Setup: 'CLOCK_50'

	Slack	From Node	To Node	Launch Clock	Latch Clock	Relationship	Clock Skew	Data Delay
40	-2.427	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[22]	AUD_BCLK	CLOCK_50	1.000	-0.816	2.599
41	-2.427	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[23]	AUD_BCLK	CLOCK_50	1.000	-0.816	2.599
42	-2.427	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[24]	AUD_BCLK	CLOCK_50	1.000	-0.816	2.599
43	-2.427	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[25]	AUD_BCLK	CLOCK_50	1.000	-0.816	2.599
44	-2.427	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[26]	AUD_BCLK	CLOCK_50	1.000	-0.816	2.599
45	-2.427	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[29]	AUD_BCLK	CLOCK_50	1.000	-0.816	2.599
46	-2.427	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[28]	AUD_BCLK	CLOCK_50	1.000	-0.816	2.599
47	-2.427	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[30]	AUD_BCLK	CLOCK_50	1.000	-0.816	2.599
48	-2.376	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[0]	AUD_BCLK	CLOCK_50	1.000	-0.816	2.548
49	-2.376	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[1]	AUD_BCLK	CLOCK_50	1.000	-0.816	2.548
50	-2.376	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[2]	AUD_BCLK	CLOCK_50	1.000	-0.816	2.548
51	-2.376	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[3]	AUD_BCLK	CLOCK_50	1.000	-0.816	2.548
52	-2.376	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[4]	AUD_BCLK	CLOCK_50	1.000	-0.816	2.548
53	-2.376	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[5]	AUD_BCLK	CLOCK_50	1.000	-0.816	2.548
54	-2.376	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[6]	AUD_BCLK	CLOCK_50	1.000	-0.816	2.548
55	-2.376	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[7]	AUD_BCLK	CLOCK_50	1.000	-0.816	2.548
56	-2.376	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[8]	AUD_BCLK	CLOCK_50	1.000	-0.816	2.548
57	-2.376	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[9]	AUD_BCLK	CLOCK_50	1.000	-0.816	2.548
58	-2.376	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[10]	AUD_BCLK	CLOCK_50	1.000	-0.816	2.548
59	-2.376	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[11]	AUD_BCLK	CLOCK_50	1.000	-0.816	2.548
60	-2.376	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[12]	AUD_BCLK	CLOCK_50	1.000	-0.816	2.548
61	-2.376	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[13]	AUD_BCLK	CLOCK_50	1.000	-0.816	2.548
62	-2.376	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[14]	AUD_BCLK	CLOCK_50	1.000	-0.816	2.548
63	-2.363	Top:top0|state_r.S_RECD_PAUSE	Top:top0|time_counter_r[0]	AUD_BCLK	CLOCK_50	1.000	-0.828	2.523
64	-2.363	Top:top0|state_r.S_RECD_PAUSE	Top:top0|time_counter_r[1]	AUD_BCLK	CLOCK_50	1.000	-0.828	2.523
65	-2.363	Top:top0|state_r.S_RECD_PAUSE	Top:top0|time_counter_r[2]	AUD_BCLK	CLOCK_50	1.000	-0.828	2.523
66	-2.363	Top:top0|state_r.S_RECD_PAUSE	Top:top0|time_counter_r[3]	AUD_BCLK	CLOCK_50	1.000	-0.828	2.523
67	-2.363	Top:top0|state_r.S_RECD_PAUSE	Top:top0|time_counter_r[4]	AUD_BCLK	CLOCK_50	1.000	-0.828	2.523
68	-2.363	Top:top0|state_r.S_RECD_PAUSE	Top:top0|time_counter_r[5]	AUD_BCLK	CLOCK_50	1.000	-0.828	2.523
69	-2.363	Top:top0|state_r.S_RECD_PAUSE	Top:top0|time_counter_r[6]	AUD_BCLK	CLOCK_50	1.000	-0.828	2.523
70	-2.363	Top:top0|state_r.S_RECD_PAUSE	Top:top0|time_counter_r[7]	AUD_BCLK	CLOCK_50	1.000	-0.828	2.523
71	-2.363	Top:top0|state_r.S_RECD_PAUSE	Top:top0|time_counter_r[8]	AUD_BCLK	CLOCK_50	1.000	-0.828	2.523
72	-2.363	Top:top0|state_r.S_RECD_PAUSE	Top:top0|time_counter_r[9]	AUD_BCLK	CLOCK_50	1.000	-0.828	2.523
73	-2.363	Top:top0|state_r.S_RECD_PAUSE	Top:top0|time_counter_r[10]	AUD_BCLK	CLOCK_50	1.000	-0.828	2.523
74	-2.363	Top:top0|state_r.S_RECD_PAUSE	Top:top0|time_counter_r[11]	AUD_BCLK	CLOCK_50	1.000	-0.828	2.523
75	-2.363	Top:top0|state_r.S_RECD_PAUSE	Top:top0|time_counter_r[12]	AUD_BCLK	CLOCK_50	1.000	-0.828	2.523
76	-2.363	Top:top0|state_r.S_RECD_PAUSE	Top:top0|time_counter_r[13]	AUD_BCLK	CLOCK_50	1.000	-0.828	2.523
77	-2.363	Top:top0|state_r.S_RECD_PAUSE	Top:top0|time_counter_r[14]	AUD_BCLK	CLOCK_50	1.000	-0.828	2.523
78	-2.326	Top:top0|state_r.S_PLAY	Top:top0|showtime_r[0]	AUD_BCLK	CLOCK_50	1.000	-0.417	2.897
79	-2.326	Top:top0|state_r.S_PLAY	Top:top0|showtime_r[1]	AUD_BCLK	CLOCK_50	1.000	-0.417	2.897
80	-2.326	Top:top0|state_r.S_PLAY	Top:top0|showtime_r[2]	AUD_BCLK	CLOCK_50	1.000	-0.417	2.897
81	-2.326	Top:top0|state_r.S_PLAY	Top:top0|showtime_r[3]	AUD_BCLK	CLOCK_50	1.000	-0.417	2.897

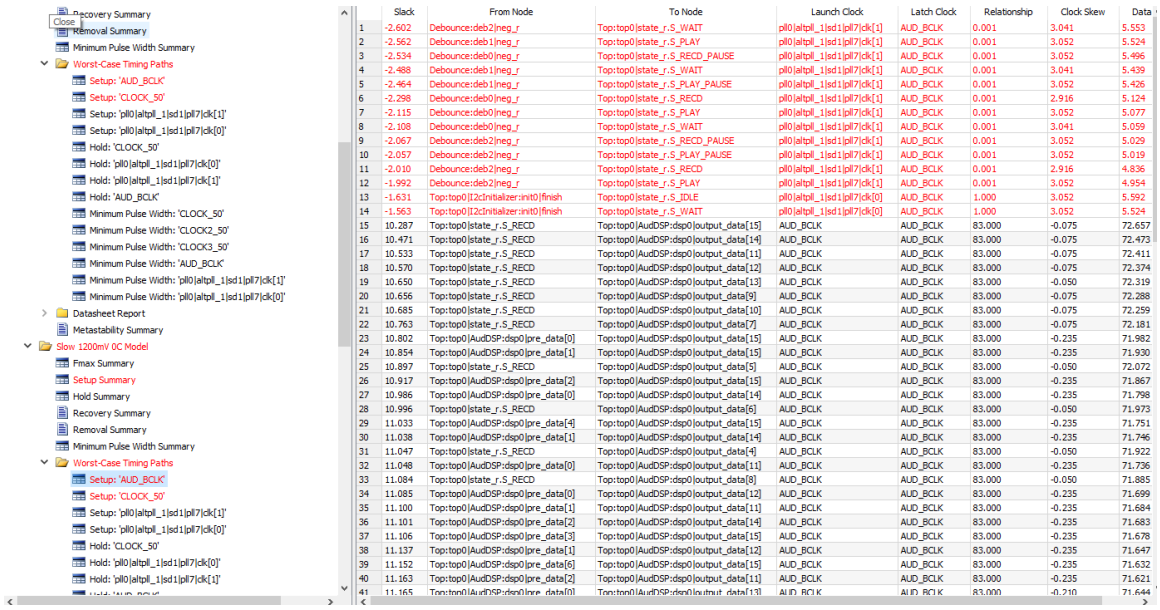


	Slack	From Node	To Node	Launch Clock	Latch Clock	Relationship	Clock Skew	Data Delay
60	-2.376	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[12]	AUD_BCLK	CLOCK_50	1.000	-0.816	2.548
61	-2.376	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[13]	AUD_BCLK	CLOCK_50	1.000	-0.816	2.548
62	-2.376	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[14]	AUD_BCLK	CLOCK_50	1.000	-0.816	2.548
63	-2.363	Top:top0|state_r.S_RECD_PAUSE	Top:top0|time_counter_r[0]	AUD_BCLK	CLOCK_50	1.000	-0.828	2.523
64	-2.363	Top:top0|state_r.S_RECD_PAUSE	Top:top0|time_counter_r[1]	AUD_BCLK	CLOCK_50	1.000	-0.828	2.523
65	-2.363	Top:top0|state_r.S_RECD_PAUSE	Top:top0|time_counter_r[2]	AUD_BCLK	CLOCK_50	1.000	-0.828	2.523
66	-2.363	Top:top0|state_r.S_RECD_PAUSE	Top:top0|time_counter_r[3]	AUD_BCLK	CLOCK_50	1.000	-0.828	2.523
67	-2.363	Top:top0|state_r.S_RECD_PAUSE	Top:top0|time_counter_r[4]	AUD_BCLK	CLOCK_50	1.000	-0.828	2.523
68	-2.363	Top:top0|state_r.S_RECD_PAUSE	Top:top0|time_counter_r[5]	AUD_BCLK	CLOCK_50	1.000	-0.828	2.523
69	-2.363	Top:top0|state_r.S_RECD_PAUSE	Top:top0|time_counter_r[6]	AUD_BCLK	CLOCK_50	1.000	-0.828	2.523
70	-2.363	Top:top0|state_r.S_RECD_PAUSE	Top:top0|time_counter_r[7]	AUD_BCLK	CLOCK_50	1.000	-0.828	2.523
71	-2.363	Top:top0|state_r.S_RECD_PAUSE	Top:top0|time_counter_r[8]	AUD_BCLK	CLOCK_50	1.000	-0.828	2.523
72	-2.363	Top:top0|state_r.S_RECD_PAUSE	Top:top0|time_counter_r[9]	AUD_BCLK	CLOCK_50	1.000	-0.828	2.523
73	-2.363	Top:top0|state_r.S_RECD_PAUSE	Top:top0|time_counter_r[10]	AUD_BCLK	CLOCK_50	1.000	-0.828	2.523
74	-2.363	Top:top0|state_r.S_RECD_PAUSE	Top:top0|time_counter_r[11]	AUD_BCLK	CLOCK_50	1.000	-0.828	2.523
75	-2.363	Top:top0|state_r.S_RECD_PAUSE	Top:top0|time_counter_r[12]	AUD_BCLK	CLOCK_50	1.000	-0.828	2.523
76	-2.363	Top:top0|state_r.S_RECD_PAUSE	Top:top0|time_counter_r[13]	AUD_BCLK	CLOCK_50	1.000	-0.828	2.523
77	-2.363	Top:top0|state_r.S_RECD_PAUSE	Top:top0|time_counter_r[14]	AUD_BCLK	CLOCK_50	1.000	-0.828	2.523
78	-2.326	Top:top0|state_r.S_PLAY	Top:top0|showtime_r[0]	AUD_BCLK	CLOCK_50	1.000	-0.417	2.897
79	-2.326	Top:top0|state_r.S_PLAY	Top:top0|showtime_r[1]	AUD_BCLK	CLOCK_50	1.000	-0.417	2.897
80	-2.326	Top:top0|state_r.S_PLAY	Top:top0|showtime_r[2]	AUD_BCLK	CLOCK_50	1.000	-0.417	2.897
81	-2.326	Top:top0|state_r.S_PLAY	Top:top0|showtime_r[3]	AUD_BCLK	CLOCK_50	1.000	-0.417	2.897
82	-2.326	Top:top0|state_r.S_PLAY	Top:top0|showtime_r[4]	AUD_BCLK	CLOCK_50	1.000	-0.417	2.897
83	-2.326	Top:top0|state_r.S_PLAY	Top:top0|showtime_r[5]	AUD_BCLK	CLOCK_50	1.000	-0.417	2.897
84	-2.249	Top:top0|state_r.S_PLAY_PAUSE	Top:top0|time_counter_r[0]	AUD_BCLK	CLOCK_50	1.000	-0.828	2.409
85	-2.249	Top:top0|state_r.S_PLAY_PAUSE	Top:top0|time_counter_r[1]	AUD_BCLK	CLOCK_50	1.000	-0.828	2.409
86	-2.249	Top:top0|state_r.S_PLAY_PAUSE	Top:top0|time_counter_r[2]	AUD_BCLK	CLOCK_50	1.000	-0.828	2.409
87	-2.249	Top:top0|state_r.S_PLAY_PAUSE	Top:top0|time_counter_r[3]	AUD_BCLK	CLOCK_50	1.000	-0.828	2.409
88	-2.249	Top:top0|state_r.S_PLAY_PAUSE	Top:top0|time_counter_r[4]	AUD_BCLK	CLOCK_50	1.000	-0.828	2.409
89	-2.249	Top:top0|state_r.S_PLAY_PAUSE	Top:top0|time_counter_r[5]	AUD_BCLK	CLOCK_50	1.000	-0.828	2.409
90	-2.249	Top:top0|state_r.S_PLAY_PAUSE	Top:top0|time_counter_r[6]	AUD_BCLK	CLOCK_50	1.000	-0.828	2.409
91	-2.249	Top:top0|state_r.S_PLAY_PAUSE	Top:top0|time_counter_r[7]	AUD_BCLK	CLOCK_50	1.000	-0.828	2.409
92	-2.249	Top:top0|state_r.S_PLAY_PAUSE	Top:top0|time_counter_r[8]	AUD_BCLK	CLOCK_50	1.000	-0.828	2.409
93	-2.249	Top:top0|state_r.S_PLAY_PAUSE	Top:top0|time_counter_r[9]	AUD_BCLK	CLOCK_50	1.000	-0.828	2.409
94	-2.249	Top:top0|state_r.S_PLAY_PAUSE	Top:top0|time_counter_r[10]	AUD_BCLK	CLOCK_50	1.000	-0.828	2.409
95	-2.249	Top:top0|state_r.S_PLAY_PAUSE	Top:top0|time_counter_r[11]	AUD_BCLK	CLOCK_50	1.000	-0.828	2.409
96	-2.249	Top:top0|state_r.S_PLAY_PAUSE	Top:top0|time_counter_r[12]	AUD_BCLK	CLOCK_50	1.000	-0.828	2.409
97	-2.249	Top:top0|state_r.S_PLAY_PAUSE	Top:top0|time_counter_r[13]	AUD_BCLK	CLOCK_50	1.000	-0.828	2.409
98	-2.249	Top:top0|state_r.S_PLAY_PAUSE	Top:top0|time_counter_r[14]	AUD_BCLK	CLOCK_50	1.000	-0.828	2.409
99	-2.247	Top:top0|state_r.S_RECD	Top:top0|showtime_r[0]	AUD_BCLK	CLOCK_50	1.000	-0.267	2.968
100	-2.247	Top:top0|state_r.S_RECD	Top:top0|showtime_r[1]	AUD_BCLK	CLOCK_50	1.000	-0.267	2.968

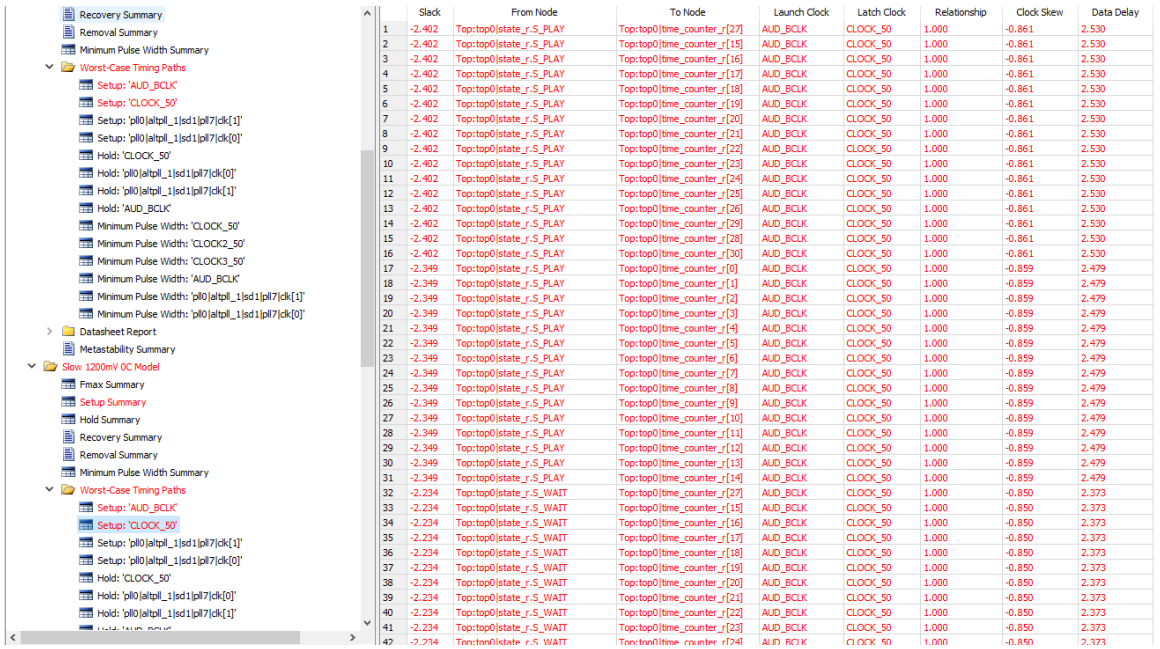


Slow 1200mV 0C Model Setup Summary

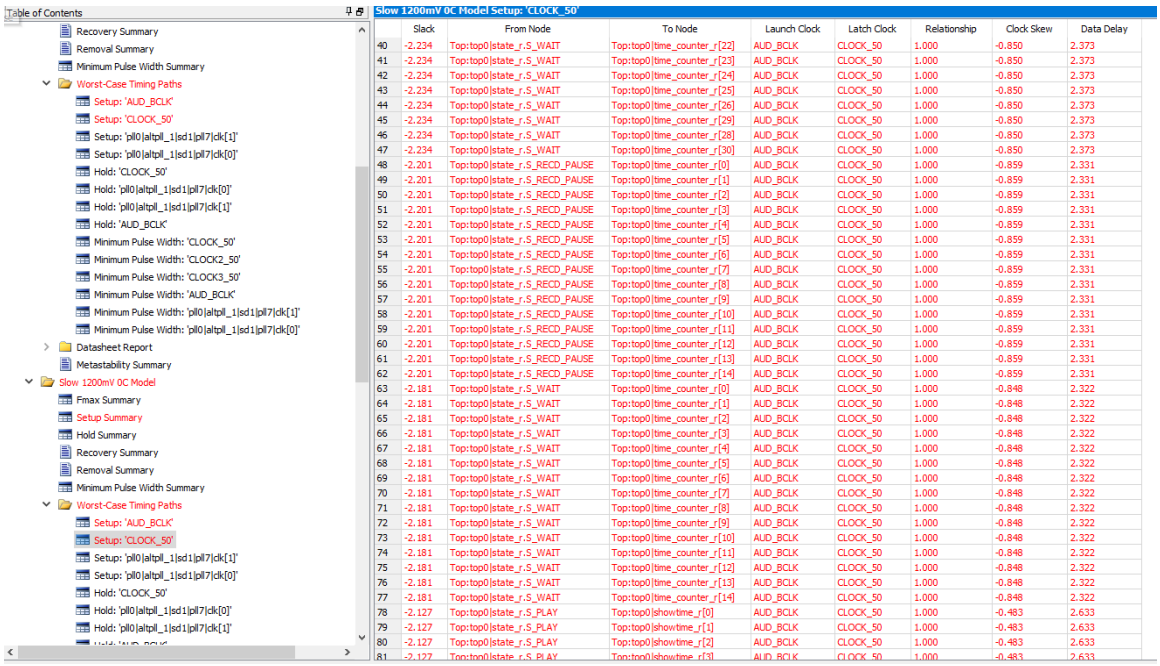
	Clock	Slack	End Point TNS
1	AUD_BCLK	-2.602	-14.091
2	CLOCK_50	-2.402	-94.872
3	pll0|altpll_1|sd1|pll7|clk[1]	80.804	0.000
4	pll0|altpll_1|sd1|pll7|clk[0]	9989.947	0.000



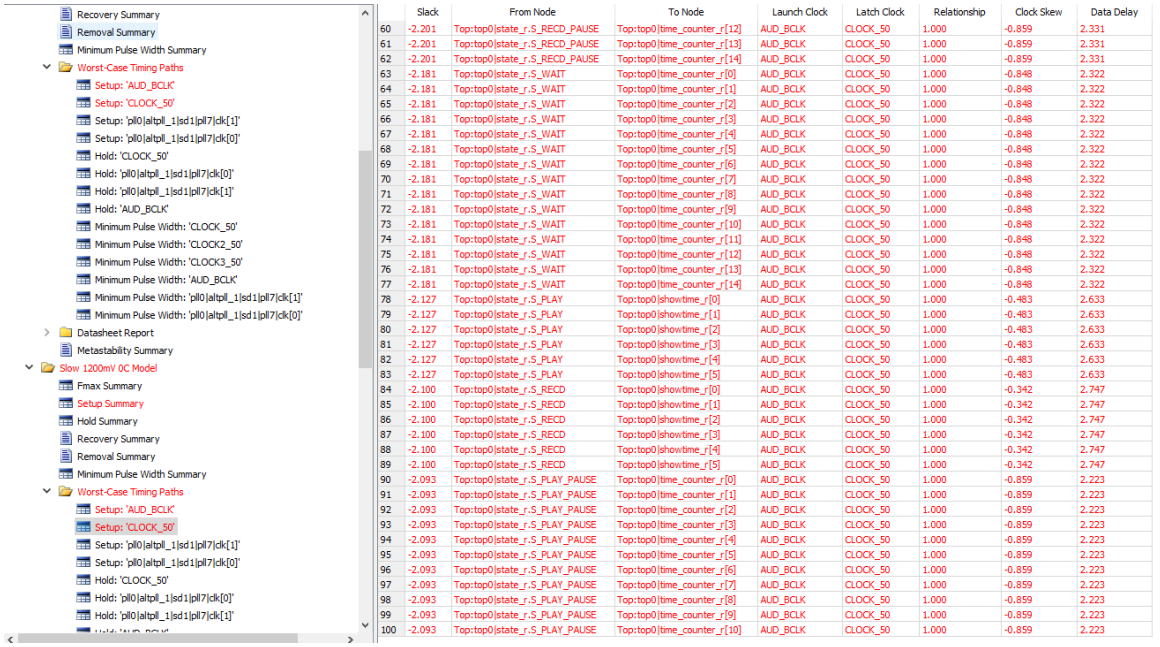
	Slack	From Node	To Node	Launch Clock	Latch Clock	Relationship	Clock Skew	Data
1	-2.602	Debounce:deb2|neg_r	Top:top0|state_r.S_WAIT	pll0|altpll_1|sd1|pll7|clk[1]	AUD_BCLK	0.001	3.041	5.553
2	-2.562	Debounce:deb1|neg_r	Top:top0|state_r.S_PLAY	pll0|altpll_1|sd1|pll7|clk[1]	AUD_BCLK	0.001	3.052	5.524
3	-2.534	Debounce:deb0|neg_r	Top:top0|state_r.S_RECD_PAUSE	pll0|altpll_1|sd1|pll7|clk[1]	AUD_BCLK	0.001	3.052	5.496
4	-2.488	Debounce:deb1|neg_r	Top:top0|state_r.S_WAIT	pll0|altpll_1|sd1|pll7|clk[1]	AUD_BCLK	0.001	3.041	5.439
5	-2.464	Debounce:deb1|neg_r	Top:top0|state_r.S_PLAY_PAUSE	pll0|altpll_1|sd1|pll7|clk[1]	AUD_BCLK	0.001	3.052	5.426
6	-2.298	Debounce:deb0|neg_r	Top:top0|state_r.S_RECD	pll0|altpll_1|sd1|pll7|clk[1]	AUD_BCLK	0.001	2.916	5.124
7	-2.115	Debounce:deb0|neg_r	Top:top0|state_r.S_PLAY	pll0|altpll_1|sd1|pll7|clk[1]	AUD_BCLK	0.001	3.052	5.077
8	-2.108	Debounce:deb0|neg_r	Top:top0|state_r.S_WAIT	pll0|altpll_1|sd1|pll7|clk[1]	AUD_BCLK	0.001	3.041	5.059
9	-2.067	Debounce:deb2|neg_r	Top:top0|state_r.S_RECD_PAUSE	pll0|altpll_1|sd1|pll7|clk[1]	AUD_BCLK	0.001	3.052	5.029
10	-2.057	Debounce:deb2|neg_r	Top:top0|state_r.S_PLAY_PAUSE	pll0|altpll_1|sd1|pll7|clk[1]	AUD_BCLK	0.001	3.052	5.019
11	-2.010	Debounce:deb2|neg_r	Top:top0|state_r.S_RECD	pll0|altpll_1|sd1|pll7|clk[1]	AUD_BCLK	0.001	2.916	4.836
12	-1.992	Debounce:deb2|neg_r	Top:top0|state_r.S_PLAY	pll0|altpll_1|sd1|pll7|clk[1]	AUD_BCLK	0.001	3.052	4.954
13	-1.631	Top:top0|I2cInitializer:init0|finish	Top:top0|state_r.S_IDLE	pll0|altpll_1|sd1|pll7|clk[0]	AUD_BCLK	1.000	3.052	5.592
14	-1.563	Top:top0|I2cInitializer:init0|finish	Top:top0|state_r.S_WAIT	pll0|altpll_1|sd1|pll7|clk[0]	AUD_BCLK	1.000	3.052	5.524
15	10.287	Top:top0|state_r.S_RECD	Top:top0|AudDSP:dsp0|output_data[15]	AUD_BCLK	AUD_BCLK	83.000	-0.075	72.657
16	10.471	Top:top0|state_r.S_RECD	Top:top0|AudDSP:dsp0|output_data[14]	AUD_BCLK	AUD_BCLK	83.000	-0.075	72.473
17	10.533	Top:top0|state_r.S_RECD	Top:top0|AudDSP:dsp0|output_data[11]	AUD_BCLK	AUD_BCLK	83.000	-0.075	72.411
18	10.570	Top:top0|state_r.S_RECD	Top:top0|AudDSP:dsp0|output_data[12]	AUD_BCLK	AUD_BCLK	83.000	-0.075	72.374
19	10.650	Top:top0|state_r.S_RECD	Top:top0|AudDSP:dsp0|output_data[13]	AUD_BCLK	AUD_BCLK	83.000	-0.050	72.319
20	10.656	Top:top0|state_r.S_RECD	Top:top0|AudDSP:dsp0|output_data[9]	AUD_BCLK	AUD_BCLK	83.000	-0.075	72.288
21	10.685	Top:top0|state_r.S_RECD	Top:top0|AudDSP:dsp0|output_data[10]	AUD_BCLK	AUD_BCLK	83.000	-0.075	72.259
22	10.763	Top:top0|state_r.S_RECD	Top:top0|AudDSP:dsp0|output_data[7]	AUD_BCLK	AUD_BCLK	83.000	-0.075	72.181
23	10.802	Top:top0|AudDSP:dsp0|pre_data[0]	Top:top0|AudDSP:dsp0|output_data[15]	AUD_BCLK	AUD_BCLK	83.000	-0.235	71.982
24	10.854	Top:top0|AudDSP:dsp0|pre_data[1]	Top:top0|AudDSP:dsp0|output_data[15]	AUD_BCLK	AUD_BCLK	83.000	-0.235	71.930
25	10.897	Top:top0|state_r.S_RECD	Top:top0|AudDSP:dsp0|output_data[5]	AUD_BCLK	AUD_BCLK	83.000	-0.050	72.072
26	10.917	Top:top0|AudDSP:dsp0|pre_data[2]	Top:top0|AudDSP:dsp0|output_data[15]	AUD_BCLK	AUD_BCLK	83.000	-0.235	71.867
27	10.986	Top:top0|AudDSP:dsp0|pre_data[0]	Top:top0|AudDSP:dsp0|output_data[14]	AUD_BCLK	AUD_BCLK	83.000	-0.235	71.798
28	10.996	Top:top0|state_r.S_RECD	Top:top0|AudDSP:dsp0|output_data[6]	AUD_BCLK	AUD_BCLK	83.000	-0.050	71.973
29	11.033	Top:top0|AudDSP:dsp0|pre_data[4]	Top:top0|AudDSP:dsp0|output_data[15]	AUD_BCLK	AUD_BCLK	83.000	-0.235	71.751
30	11.038	Top:top0|AudDSP:dsp0|pre_data[1]	Top:top0|AudDSP:dsp0|output_data[14]	AUD_BCLK	AUD_BCLK	83.000	-0.235	71.746
31	11.047	Top:top0|state_r.S_RECD	Top:top0|AudDSP:dsp0|output_data[4]	AUD_BCLK	AUD_BCLK	83.000	-0.050	71.922
32	11.048	Top:top0|AudDSP:dsp0|pre_data[0]	Top:top0|AudDSP:dsp0|output_data[11]	AUD_BCLK	AUD_BCLK	83.000	-0.235	71.736
33	11.084	Top:top0|state_r.S_RECD	Top:top0|AudDSP:dsp0|output_data[8]	AUD_BCLK	AUD_BCLK	83.000	-0.050	71.885
34	11.085	Top:top0|AudDSP:dsp0|pre_data[0]	Top:top0|AudDSP:dsp0|output_data[12]	AUD_BCLK	AUD_BCLK	83.000	-0.235	71.699
35	11.100	Top:top0|AudDSP:dsp0|pre_data[1]	Top:top0|AudDSP:dsp0|output_data[11]	AUD_BCLK	AUD_BCLK	83.000	-0.235	71.684
36	11.101	Top:top0|AudDSP:dsp0|pre_data[2]	Top:top0|AudDSP:dsp0|output_data[14]	AUD_BCLK	AUD_BCLK	83.000	-0.235	71.683
37	11.106	Top:top0|AudDSP:dsp0|pre_data[3]	Top:top0|AudDSP:dsp0|output_data[15]	AUD_BCLK	AUD_BCLK	83.000	-0.235	71.678
38	11.137	Top:top0|AudDSP:dsp0|pre_data[1]	Top:top0|AudDSP:dsp0|output_data[12]	AUD_BCLK	AUD_BCLK	83.000	-0.235	71.647
39	11.152	Top:top0|AudDSP:dsp0|pre_data[6]	Top:top0|AudDSP:dsp0|output_data[15]	AUD_BCLK	AUD_BCLK	83.000	-0.235	71.632
40	11.163	Top:top0|AudDSP:dsp0|pre_data[2]	Top:top0|AudDSP:dsp0|output_data[11]	AUD_BCLK	AUD_BCLK	83.000	-0.235	71.621
41	11.165	Top:top0|AudDSP:dsp0|pre_data[0]	Top:top0|AudDSP:dsp0|output_data[13]	AUD_BCLK	AUD_BCLK	83.000	-0.210	71.644



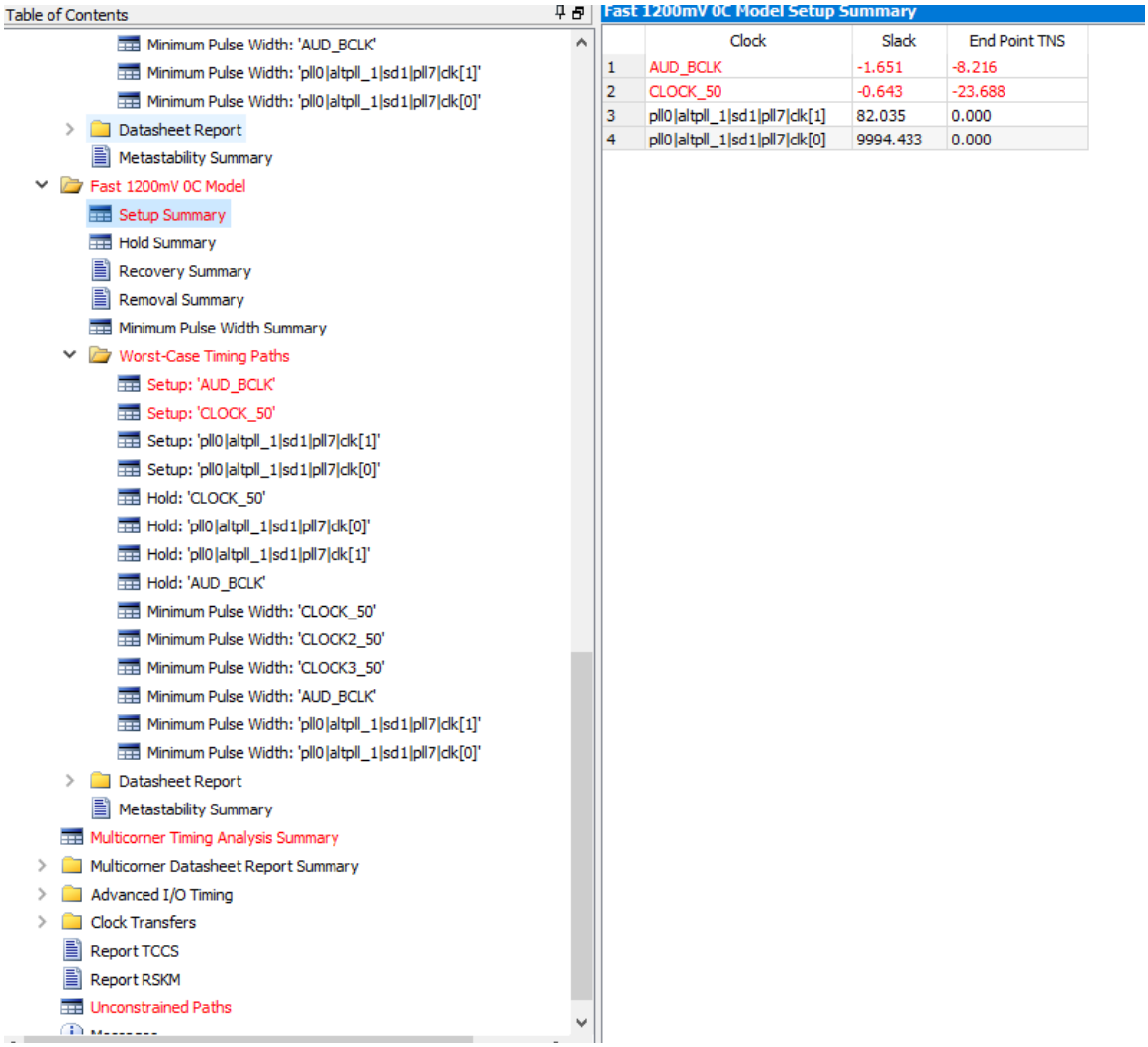
	Slack	From Node	To Node	Launch Clock	Latch Clock	Relationship	Clock Skew	Data Delay
1	-2.402	Top:top0|state_r.S_PLAY	Top:top0|time_counter_r[27]	AUD_BCLK	CLOCK_50	1.000	-0.861	2.530
2	-2.402	Top:top0|state_r.S_PLAY	Top:top0|time_counter_r[15]	AUD_BCLK	CLOCK_50	1.000	-0.861	2.530
3	-2.402	Top:top0|state_r.S_PLAY	Top:top0|time_counter_r[16]	AUD_BCLK	CLOCK_50	1.000	-0.861	2.530
4	-2.402	Top:top0|state_r.S_PLAY	Top:top0|time_counter_r[17]	AUD_BCLK	CLOCK_50	1.000	-0.861	2.530
5	-2.402	Top:top0|state_r.S_PLAY	Top:top0|time_counter_r[18]	AUD_BCLK	CLOCK_50	1.000	-0.861	2.530
6	-2.402	Top:top0|state_r.S_PLAY	Top:top0|time_counter_r[19]	AUD_BCLK	CLOCK_50	1.000	-0.861	2.530
7	-2.402	Top:top0|state_r.S_PLAY	Top:top0|time_counter_r[20]	AUD_BCLK	CLOCK_50	1.000	-0.861	2.530
8	-2.402	Top:top0|state_r.S_PLAY	Top:top0|time_counter_r[21]	AUD_BCLK	CLOCK_50	1.000	-0.861	2.530
9	-2.402	Top:top0|state_r.S_PLAY	Top:top0|time_counter_r[22]	AUD_BCLK	CLOCK_50	1.000	-0.861	2.530
10	-2.402	Top:top0|state_r.S_PLAY	Top:top0|time_counter_r[23]	AUD_BCLK	CLOCK_50	1.000	-0.861	2.530
11	-2.402	Top:top0|state_r.S_PLAY	Top:top0|time_counter_r[24]	AUD_BCLK	CLOCK_50	1.000	-0.861	2.530
12	-2.402	Top:top0|state_r.S_PLAY	Top:top0|time_counter_r[25]	AUD_BCLK	CLOCK_50	1.000	-0.861	2.530
13	-2.402	Top:top0|state_r.S_PLAY	Top:top0|time_counter_r[26]	AUD_BCLK	CLOCK_50	1.000	-0.861	2.530
14	-2.402	Top:top0|state_r.S_PLAY	Top:top0|time_counter_r[29]	AUD_BCLK	CLOCK_50	1.000	-0.861	2.530
15	-2.402	Top:top0|state_r.S_PLAY	Top:top0|time_counter_r[28]	AUD_BCLK	CLOCK_50	1.000	-0.861	2.530
16	-2.402	Top:top0|state_r.S_PLAY	Top:top0|time_counter_r[30]	AUD_BCLK	CLOCK_50	1.000	-0.861	2.530
17	-2.349	Top:top0|state_r.S_PLAY	Top:top0|time_counter_r[0]	AUD_BCLK	CLOCK_50	1.000	-0.859	2.479
18	-2.349	Top:top0|state_r.S_PLAY	Top:top0|time_counter_r[1]	AUD_BCLK	CLOCK_50	1.000	-0.859	2.479
19	-2.349	Top:top0|state_r.S_PLAY	Top:top0|time_counter_r[2]	AUD_BCLK	CLOCK_50	1.000	-0.859	2.479
20	-2.349	Top:top0|state_r.S_PLAY	Top:top0|time_counter_r[3]	AUD_BCLK	CLOCK_50	1.000	-0.859	2.479
21	-2.349	Top:top0|state_r.S_PLAY	Top:top0|time_counter_r[4]	AUD_BCLK	CLOCK_50	1.000	-0.859	2.479
22	-2.349	Top:top0|state_r.S_PLAY	Top:top0|time_counter_r[5]	AUD_BCLK	CLOCK_50	1.000	-0.859	2.479
23	-2.349	Top:top0|state_r.S_PLAY	Top:top0|time_counter_r[6]	AUD_BCLK	CLOCK_50	1.000	-0.859	2.479
24	-2.349	Top:top0|state_r.S_PLAY	Top:top0|time_counter_r[7]	AUD_BCLK	CLOCK_50	1.000	-0.859	2.479
25	-2.349	Top:top0|state_r.S_PLAY	Top:top0|time_counter_r[8]	AUD_BCLK	CLOCK_50	1.000	-0.859	2.479
26	-2.349	Top:top0|state_r.S_PLAY	Top:top0|time_counter_r[9]	AUD_BCLK	CLOCK_50	1.000	-0.859	2.479
27	-2.349	Top:top0|state_r.S_PLAY	Top:top0|time_counter_r[10]	AUD_BCLK	CLOCK_50	1.000	-0.859	2.479
28	-2.349	Top:top0|state_r.S_PLAY	Top:top0|time_counter_r[11]	AUD_BCLK	CLOCK_50	1.000	-0.859	2.479
29	-2.349	Top:top0|state_r.S_PLAY	Top:top0|time_counter_r[12]	AUD_BCLK	CLOCK_50	1.000	-0.859	2.479
30	-2.349	Top:top0|state_r.S_PLAY	Top:top0|time_counter_r[13]	AUD_BCLK	CLOCK_50	1.000	-0.859	2.479
31	-2.349	Top:top0|state_r.S_PLAY	Top:top0|time_counter_r[14]	AUD_BCLK	CLOCK_50	1.000	-0.859	2.479
32	-2.234	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[27]	AUD_BCLK	CLOCK_50	1.000	-0.850	2.373
33	-2.234	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[15]	AUD_BCLK	CLOCK_50	1.000	-0.850	2.373
34	-2.234	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[16]	AUD_BCLK	CLOCK_50	1.000	-0.850	2.373
35	-2.234	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[17]	AUD_BCLK	CLOCK_50	1.000	-0.850	2.373
36	-2.234	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[18]	AUD_BCLK	CLOCK_50	1.000	-0.850	2.373
37	-2.234	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[19]	AUD_BCLK	CLOCK_50	1.000	-0.850	2.373
38	-2.234	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[20]	AUD_BCLK	CLOCK_50	1.000	-0.850	2.373
39	-2.234	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[21]	AUD_BCLK	CLOCK_50	1.000	-0.850	2.373
40	-2.234	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[22]	AUD_BCLK	CLOCK_50	1.000	-0.850	2.373
41	-2.234	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[23]	AUD_BCLK	CLOCK_50	1.000	-0.850	2.373
42	-2.234	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[24]	AUD_BCLK	CLOCK_50	1.000	-0.850	2.373



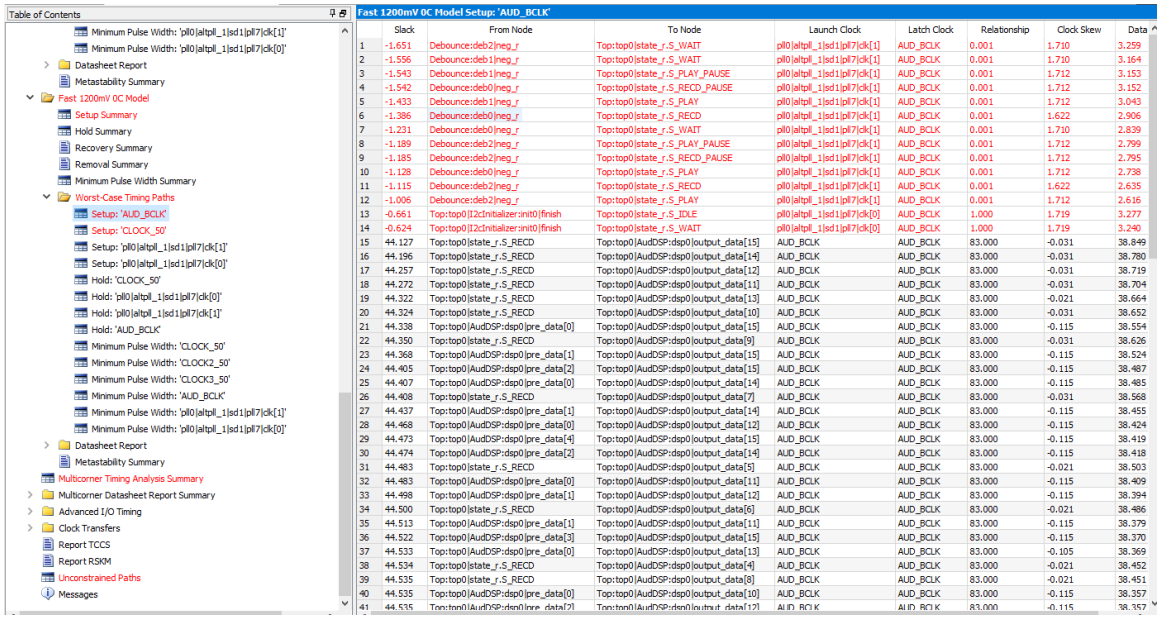
	Slack	From Node	To Node	Launch Clock	Latch Clock	Relationship	Clock Skew	Data Delay
40	-2.234	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[22]	AUD_BCLK	CLOCK_50	1.000	-0.850	2.373
41	-2.234	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[23]	AUD_BCLK	CLOCK_50	1.000	-0.850	2.373
42	-2.234	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[24]	AUD_BCLK	CLOCK_50	1.000	-0.850	2.373
43	-2.234	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[25]	AUD_BCLK	CLOCK_50	1.000	-0.850	2.373
44	-2.234	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[26]	AUD_BCLK	CLOCK_50	1.000	-0.850	2.373
45	-2.234	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[29]	AUD_BCLK	CLOCK_50	1.000	-0.850	2.373
46	-2.234	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[28]	AUD_BCLK	CLOCK_50	1.000	-0.850	2.373
47	-2.234	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[30]	AUD_BCLK	CLOCK_50	1.000	-0.850	2.373
48	-2.201	Top:top0|state_r.S_RECD_PAUSE	Top:top0|time_counter_r[0]	AUD_BCLK	CLOCK_50	1.000	-0.859	2.331
49	-2.201	Top:top0|state_r.S_RECD_PAUSE	Top:top0|time_counter_r[1]	AUD_BCLK	CLOCK_50	1.000	-0.859	2.331
50	-2.201	Top:top0|state_r.S_RECD_PAUSE	Top:top0|time_counter_r[2]	AUD_BCLK	CLOCK_50	1.000	-0.859	2.331
51	-2.201	Top:top0|state_r.S_RECD_PAUSE	Top:top0|time_counter_r[3]	AUD_BCLK	CLOCK_50	1.000	-0.859	2.331
52	-2.201	Top:top0|state_r.S_RECD_PAUSE	Top:top0|time_counter_r[4]	AUD_BCLK	CLOCK_50	1.000	-0.859	2.331
53	-2.201	Top:top0|state_r.S_RECD_PAUSE	Top:top0|time_counter_r[5]	AUD_BCLK	CLOCK_50	1.000	-0.859	2.331
54	-2.201	Top:top0|state_r.S_RECD_PAUSE	Top:top0|time_counter_r[6]	AUD_BCLK	CLOCK_50	1.000	-0.859	2.331
55	-2.201	Top:top0|state_r.S_RECD_PAUSE	Top:top0|time_counter_r[7]	AUD_BCLK	CLOCK_50	1.000	-0.859	2.331
56	-2.201	Top:top0|state_r.S_RECD_PAUSE	Top:top0|time_counter_r[8]	AUD_BCLK	CLOCK_50	1.000	-0.859	2.331
57	-2.201	Top:top0|state_r.S_RECD_PAUSE	Top:top0|time_counter_r[9]	AUD_BCLK	CLOCK_50	1.000	-0.859	2.331
58	-2.201	Top:top0|state_r.S_RECD_PAUSE	Top:top0|time_counter_r[10]	AUD_BCLK	CLOCK_50	1.000	-0.859	2.331
59	-2.201	Top:top0|state_r.S_RECD_PAUSE	Top:top0|time_counter_r[11]	AUD_BCLK	CLOCK_50	1.000	-0.859	2.331
60	-2.201	Top:top0|state_r.S_RECD_PAUSE	Top:top0|time_counter_r[12]	AUD_BCLK	CLOCK_50	1.000	-0.859	2.331
61	-2.201	Top:top0|state_r.S_RECD_PAUSE	Top:top0|time_counter_r[13]	AUD_BCLK	CLOCK_50	1.000	-0.859	2.331
62	-2.201	Top:top0|state_r.S_RECD_PAUSE	Top:top0|time_counter_r[14]	AUD_BCLK	CLOCK_50	1.000	-0.859	2.331
63	-2.181	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[0]	AUD_BCLK	CLOCK_50	1.000	-0.848	2.322
64	-2.181	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[1]	AUD_BCLK	CLOCK_50	1.000	-0.848	2.322
65	-2.181	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[2]	AUD_BCLK	CLOCK_50	1.000	-0.848	2.322
66	-2.181	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[3]	AUD_BCLK	CLOCK_50	1.000	-0.848	2.322
67	-2.181	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[4]	AUD_BCLK	CLOCK_50	1.000	-0.848	2.322
68	-2.181	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[5]	AUD_BCLK	CLOCK_50	1.000	-0.848	2.322
69	-2.181	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[6]	AUD_BCLK	CLOCK_50	1.000	-0.848	2.322
70	-2.181	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[7]	AUD_BCLK	CLOCK_50	1.000	-0.848	2.322
71	-2.181	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[8]	AUD_BCLK	CLOCK_50	1.000	-0.848	2.322
72	-2.181	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[9]	AUD_BCLK	CLOCK_50	1.000	-0.848	2.322
73	-2.181	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[10]	AUD_BCLK	CLOCK_50	1.000	-0.848	2.322
74	-2.181	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[11]	AUD_BCLK	CLOCK_50	1.000	-0.848	2.322
75	-2.181	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[12]	AUD_BCLK	CLOCK_50	1.000	-0.848	2.322
76	-2.181	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[13]	AUD_BCLK	CLOCK_50	1.000	-0.848	2.322
77	-2.181	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[14]	AUD_BCLK	CLOCK_50	1.000	-0.848	2.322
78	-2.127	Top:top0|state_r.S_PLAY	Top:top0|showtime_r[0]	AUD_BCLK	CLOCK_50	1.000	-0.483	2.633
79	-2.127	Top:top0|state_r.S_PLAY	Top:top0|showtime_r[1]	AUD_BCLK	CLOCK_50	1.000	-0.483	2.633
80	-2.127	Top:top0|state_r.S_PLAY	Top:top0|showtime_r[2]	AUD_BCLK	CLOCK_50	1.000	-0.483	2.633
81	-2.127	Top:top0|state_r.S_PLAY	Top:top0|showtime_r[3]	AUD_BCLK	CLOCK_50	1.000	-0.483	2.633



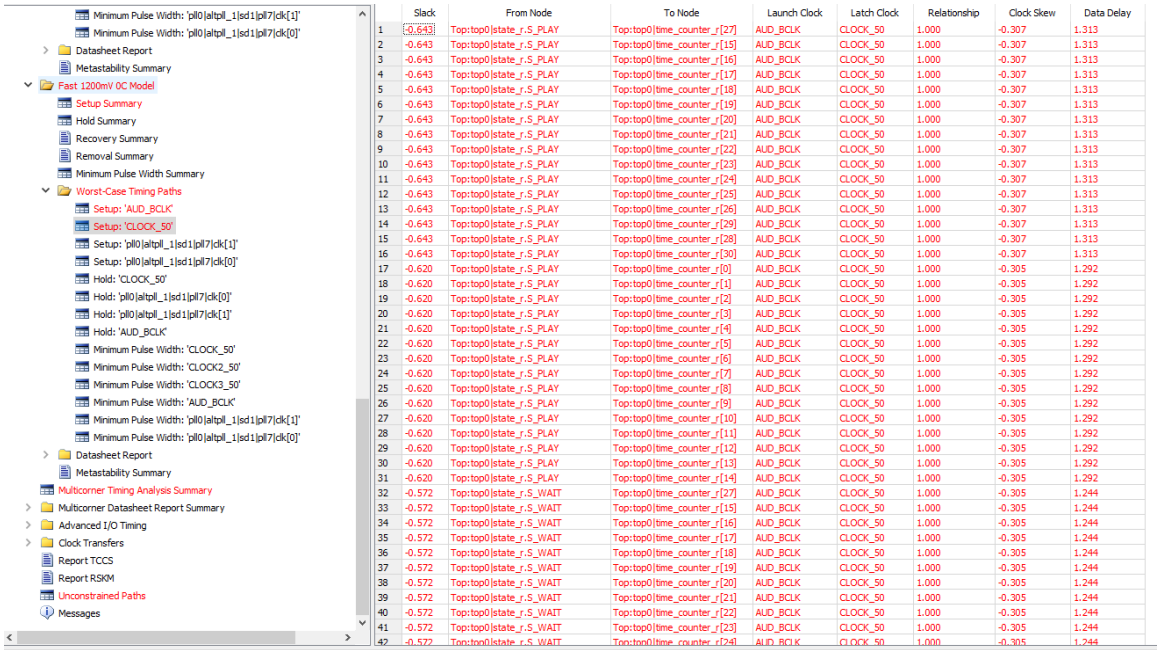
	Slack	From Node	To Node	Launch Clock	Latch Clock	Relationship	Clock Skew	Data Delay
60	-2.201	Top:top0|state_r.S_RECD_PAUSE	Top:top0|time_counter_r[12]	AUD_BCLK	CLOCK_50	1.000	-0.859	2.331
61	-2.201	Top:top0|state_r.S_RECD_PAUSE	Top:top0|time_counter_r[13]	AUD_BCLK	CLOCK_50	1.000	-0.859	2.331
62	-2.201	Top:top0|state_r.S_RECD_PAUSE	Top:top0|time_counter_r[14]	AUD_BCLK	CLOCK_50	1.000	-0.859	2.331
63	-2.181	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[0]	AUD_BCLK	CLOCK_50	1.000	-0.848	2.322
64	-2.181	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[1]	AUD_BCLK	CLOCK_50	1.000	-0.848	2.322
65	-2.181	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[2]	AUD_BCLK	CLOCK_50	1.000	-0.848	2.322
66	-2.181	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[3]	AUD_BCLK	CLOCK_50	1.000	-0.848	2.322
67	-2.181	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[4]	AUD_BCLK	CLOCK_50	1.000	-0.848	2.322
68	-2.181	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[5]	AUD_BCLK	CLOCK_50	1.000	-0.848	2.322
69	-2.181	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[6]	AUD_BCLK	CLOCK_50	1.000	-0.848	2.322
70	-2.181	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[7]	AUD_BCLK	CLOCK_50	1.000	-0.848	2.322
71	-2.181	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[8]	AUD_BCLK	CLOCK_50	1.000	-0.848	2.322
72	-2.181	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[9]	AUD_BCLK	CLOCK_50	1.000	-0.848	2.322
73	-2.181	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[10]	AUD_BCLK	CLOCK_50	1.000	-0.848	2.322
74	-2.181	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[11]	AUD_BCLK	CLOCK_50	1.000	-0.848	2.322
75	-2.181	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[12]	AUD_BCLK	CLOCK_50	1.000	-0.848	2.322
76	-2.181	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[13]	AUD_BCLK	CLOCK_50	1.000	-0.848	2.322
77	-2.181	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[14]	AUD_BCLK	CLOCK_50	1.000	-0.848	2.322
78	-2.127	Top:top0|state_r.S_PLAY	Top:top0|showtime_r[0]	AUD_BCLK	CLOCK_50	1.000	-0.483	2.633
79	-2.127	Top:top0|state_r.S_PLAY	Top:top0|showtime_r[1]	AUD_BCLK	CLOCK_50	1.000	-0.483	2.633
80	-2.127	Top:top0|state_r.S_PLAY	Top:top0|showtime_r[2]	AUD_BCLK	CLOCK_50	1.000	-0.483	2.633
81	-2.127	Top:top0|state_r.S_PLAY	Top:top0|showtime_r[3]	AUD_BCLK	CLOCK_50	1.000	-0.483	2.633
82	-2.127	Top:top0|state_r.S_PLAY	Top:top0|showtime_r[4]	AUD_BCLK	CLOCK_50	1.000	-0.483	2.633
83	-2.127	Top:top0|state_r.S_PLAY	Top:top0|showtime_r[5]	AUD_BCLK	CLOCK_50	1.000	-0.483	2.633
84	-2.100	Top:top0|state_r.S_RECD	Top:top0|showtime_r[0]	AUD_BCLK	CLOCK_50	1.000	-0.342	2.747
85	-2.100	Top:top0|state_r.S_RECD	Top:top0|showtime_r[1]	AUD_BCLK	CLOCK_50	1.000	-0.342	2.747
86	-2.100	Top:top0|state_r.S_RECD	Top:top0|showtime_r[2]	AUD_BCLK	CLOCK_50	1.000	-0.342	2.747
87	-2.100	Top:top0|state_r.S_RECD	Top:top0|showtime_r[3]	AUD_BCLK	CLOCK_50	1.000	-0.342	2.747
88	-2.100	Top:top0|state_r.S_RECD	Top:top0|showtime_r[4]	AUD_BCLK	CLOCK_50	1.000	-0.342	2.747
89	-2.100	Top:top0|state_r.S_RECD	Top:top0|showtime_r[5]	AUD_BCLK	CLOCK_50	1.000	-0.342	2.747
90	-2.093	Top:top0|state_r.S_PLAY_PAUSE	Top:top0|time_counter_r[0]	AUD_BCLK	CLOCK_50	1.000	-0.859	2.223
91	-2.093	Top:top0|state_r.S_PLAY_PAUSE	Top:top0|time_counter_r[1]	AUD_BCLK	CLOCK_50	1.000	-0.859	2.223
92	-2.093	Top:top0|state_r.S_PLAY_PAUSE	Top:top0|time_counter_r[2]	AUD_BCLK	CLOCK_50	1.000	-0.859	2.223
93	-2.093	Top:top0|state_r.S_PLAY_PAUSE	Top:top0|time_counter_r[3]	AUD_BCLK	CLOCK_50	1.000	-0.859	2.223
94	-2.093	Top:top0|state_r.S_PLAY_PAUSE	Top:top0|time_counter_r[4]	AUD_BCLK	CLOCK_50	1.000	-0.859	2.223
95	-2.093	Top:top0|state_r.S_PLAY_PAUSE	Top:top0|time_counter_r[5]	AUD_BCLK	CLOCK_50	1.000	-0.859	2.223
96	-2.093	Top:top0|state_r.S_PLAY_PAUSE	Top:top0|time_counter_r[6]	AUD_BCLK	CLOCK_50	1.000	-0.859	2.223
97	-2.093	Top:top0|state_r.S_PLAY_PAUSE	Top:top0|time_counter_r[7]	AUD_BCLK	CLOCK_50	1.000	-0.859	2.223
98	-2.093	Top:top0|state_r.S_PLAY_PAUSE	Top:top0|time_counter_r[8]	AUD_BCLK	CLOCK_50	1.000	-0.859	2.223
99	-2.093	Top:top0|state_r.S_PLAY_PAUSE	Top:top0|time_counter_r[9]	AUD_BCLK	CLOCK_50	1.000	-0.859	2.223
100	-2.093	Top:top0|state_r.S_PLAY_PAUSE	Top:top0|time_counter_r[10]	AUD_BCLK	CLOCK_50	1.000	-0.859	2.223



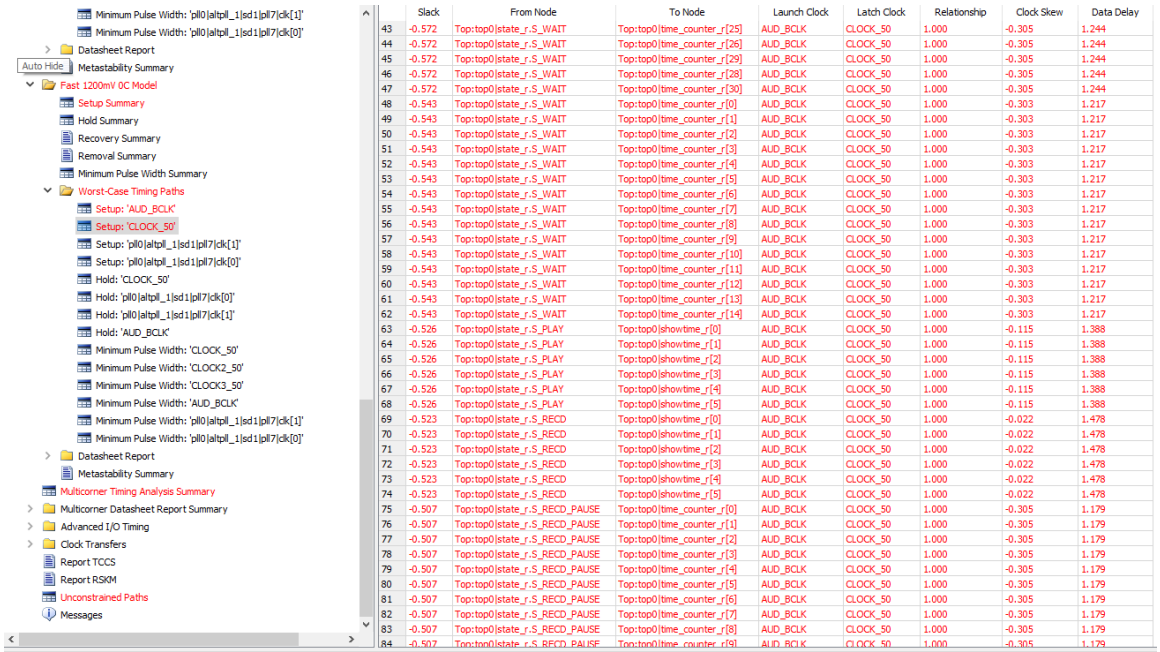
	Clock	Slack	End Point TNS
1	AUD_BCLK	-1.651	-8.216
2	CLOCK_50	-0.643	-23.688
3	pll0|altpll_1|sd1|pll7|clk[1]	82.035	0.000
4	pll0|altpll_1|sd1|pll7|clk[0]	9994.433	0.000



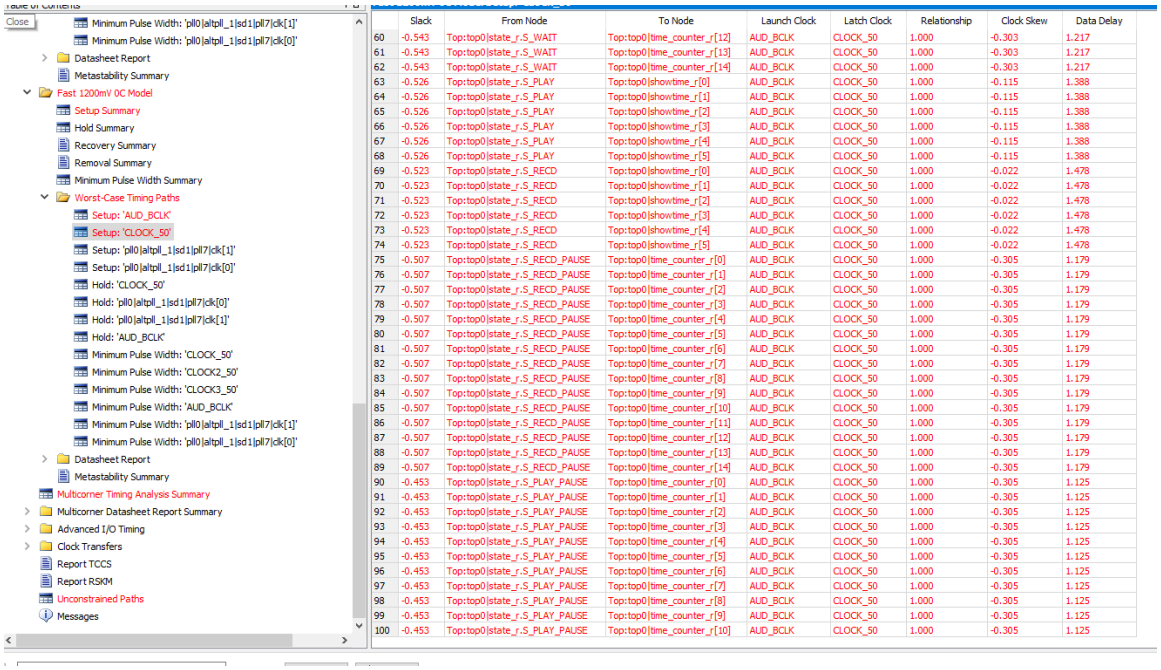
	Slack	From Node	To Node	Launch Clock	Latch Clock	Relationship	Clock Skew	Data
1	-1.651	Debounce:deb2|neg_r	Top:top0|state_r.S_WAIT	pll0|altpll_1|sd1|pll7|clk[1]	AUD_BCLK	0.001	1.710	3.259
2	-1.556	Debounce:deb1|neg_r	Top:top0|state_r.S_WAIT	pll0|altpll_1|sd1|pll7|clk[1]	AUD_BCLK	0.001	1.710	3.164
3	-1.543	Debounce:deb1|neg_r	Top:top0|state_r.S_PLAY_PAUSE	pll0|altpll_1|sd1|pll7|clk[1]	AUD_BCLK	0.001	1.712	3.153
4	-1.542	Debounce:deb0|neg_r	Top:top0|state_r.S_RECD_PAUSE	pll0|altpll_1|sd1|pll7|clk[1]	AUD_BCLK	0.001	1.712	3.152
5	-1.433	Debounce:deb1|neg_r	Top:top0|state_r.S_PLAY	pll0|altpll_1|sd1|pll7|clk[1]	AUD_BCLK	0.001	1.712	3.043
6	-1.386	Debounce:deb0|neg_r	Top:top0|state_r.S_RECD	pll0|altpll_1|sd1|pll7|clk[1]	AUD_BCLK	0.001	1.622	2.906
7	-1.231	Debounce:deb0|neg_r	Top:top0|state_r.S_WAIT	pll0|altpll_1|sd1|pll7|clk[1]	AUD_BCLK	0.001	1.710	2.839
8	-1.189	Debounce:deb2|neg_r	Top:top0|state_r.S_PLAY_PAUSE	pll0|altpll_1|sd1|pll7|clk[1]	AUD_BCLK	0.001	1.712	2.799
9	-1.185	Debounce:deb2|neg_r	Top:top0|state_r.S_RECD_PAUSE	pll0|altpll_1|sd1|pll7|clk[1]	AUD_BCLK	0.001	1.712	2.795
10	-1.128	Debounce:deb0|neg_r	Top:top0|state_r.S_PLAY	pll0|altpll_1|sd1|pll7|clk[1]	AUD_BCLK	0.001	1.712	2.738
11	-1.115	Debounce:deb2|neg_r	Top:top0|state_r.S_RECD	pll0|altpll_1|sd1|pll7|clk[1]	AUD_BCLK	0.001	1.622	2.635
12	-1.006	Debounce:deb2|neg_r	Top:top0|state_r.S_PLAY	pll0|altpll_1|sd1|pll7|clk[1]	AUD_BCLK	0.001	1.712	2.616
13	-0.661	Top:top0|I2cInitializer:init0|finish	Top:top0|state_r.S_IDLE	pll0|altpll_1|sd1|pll7|clk[0]	AUD_BCLK	1.000	1.719	3.277
14	-0.624	Top:top0|I2cInitializer:init0|finish	Top:top0|state_r.S_WAIT	pll0|altpll_1|sd1|pll7|clk[0]	AUD_BCLK	1.000	1.719	3.240
15	44.127	Top:top0|state_r.S_RECD	Top:top0|AudDSP:dsp0|output_data[15]	AUD_BCLK	AUD_BCLK	83.000	-0.031	38.849
16	44.196	Top:top0|state_r.S_RECD	Top:top0|AudDSP:dsp0|output_data[14]	AUD_BCLK	AUD_BCLK	83.000	-0.031	38.780
17	44.257	Top:top0|state_r.S_RECD	Top:top0|AudDSP:dsp0|output_data[12]	AUD_BCLK	AUD_BCLK	83.000	-0.031	38.719
18	44.272	Top:top0|state_r.S_RECD	Top:top0|AudDSP:dsp0|output_data[11]	AUD_BCLK	AUD_BCLK	83.000	-0.031	38.704
19	44.322	Top:top0|state_r.S_RECD	Top:top0|AudDSP:dsp0|output_data[13]	AUD_BCLK	AUD_BCLK	83.000	-0.021	38.664
20	44.324	Top:top0|state_r.S_RECD	Top:top0|AudDSP:dsp0|output_data[10]	AUD_BCLK	AUD_BCLK	83.000	-0.031	38.652
21	44.338	Top:top0|AudDSP:dsp0|pre_data[0]	Top:top0|AudDSP:dsp0|output_data[15]	AUD_BCLK	AUD_BCLK	83.000	-0.115	38.554
22	44.350	Top:top0|state_r.S_RECD	Top:top0|AudDSP:dsp0|output_data[9]	AUD_BCLK	AUD_BCLK	83.000	-0.031	38.626
23	44.368	Top:top0|AudDSP:dsp0|pre_data[1]	Top:top0|AudDSP:dsp0|output_data[15]	AUD_BCLK	AUD_BCLK	83.000	-0.115	38.524
24	44.405	Top:top0|AudDSP:dsp0|pre_data[2]	Top:top0|AudDSP:dsp0|output_data[15]	AUD_BCLK	AUD_BCLK	83.000	-0.115	38.487
25	44.407	Top:top0|AudDSP:dsp0|pre_data[0]	Top:top0|AudDSP:dsp0|output_data[14]	AUD_BCLK	AUD_BCLK	83.000	-0.115	38.485
26	44.408	Top:top0|state_r.S_RECD	Top:top0|AudDSP:dsp0|output_data[7]	AUD_BCLK	AUD_BCLK	83.000	-0.031	38.568
27	44.437	Top:top0|AudDSP:dsp0|pre_data[1]	Top:top0|AudDSP:dsp0|output_data[14]	AUD_BCLK	AUD_BCLK	83.000	-0.115	38.455
28	44.468	Top:top0|AudDSP:dsp0|pre_data[0]	Top:top0|AudDSP:dsp0|output_data[12]	AUD_BCLK	AUD_BCLK	83.000	-0.115	38.424
29	44.473	Top:top0|AudDSP:dsp0|pre_data[4]	Top:top0|AudDSP:dsp0|output_data[15]	AUD_BCLK	AUD_BCLK	83.000	-0.115	38.419
30	44.474	Top:top0|AudDSP:dsp0|pre_data[2]	Top:top0|AudDSP:dsp0|output_data[14]	AUD_BCLK	AUD_BCLK	83.000	-0.115	38.418
31	44.483	Top:top0|state_r.S_RECD	Top:top0|AudDSP:dsp0|output_data[5]	AUD_BCLK	AUD_BCLK	83.000	-0.021	38.503
32	44.483	Top:top0|AudDSP:dsp0|pre_data[0]	Top:top0|AudDSP:dsp0|output_data[11]	AUD_BCLK	AUD_BCLK	83.000	-0.115	38.409
33	44.498	Top:top0|AudDSP:dsp0|pre_data[1]	Top:top0|AudDSP:dsp0|output_data[12]	AUD_BCLK	AUD_BCLK	83.000	-0.115	38.394
34	44.500	Top:top0|state_r.S_RECD	Top:top0|AudDSP:dsp0|output_data[6]	AUD_BCLK	AUD_BCLK	83.000	-0.021	38.486
35	44.513	Top:top0|AudDSP:dsp0|pre_data[1]	Top:top0|AudDSP:dsp0|output_data[11]	AUD_BCLK	AUD_BCLK	83.000	-0.115	38.379
36	44.522	Top:top0|AudDSP:dsp0|pre_data[3]	Top:top0|AudDSP:dsp0|output_data[15]	AUD_BCLK	AUD_BCLK	83.000	-0.115	38.370
37	44.533	Top:top0|AudDSP:dsp0|pre_data[0]	Top:top0|AudDSP:dsp0|output_data[13]	AUD_BCLK	AUD_BCLK	83.000	-0.105	38.369
38	44.534	Top:top0|state_r.S_RECD	Top:top0|AudDSP:dsp0|output_data[4]	AUD_BCLK	AUD_BCLK	83.000	-0.021	38.452
39	44.535	Top:top0|state_r.S_RECD	Top:top0|AudDSP:dsp0|output_data[8]	AUD_BCLK	AUD_BCLK	83.000	-0.021	38.451
40	44.535	Top:top0|AudDSP:dsp0|pre_data[0]	Top:top0|AudDSP:dsp0|output_data[10]	AUD_BCLK	AUD_BCLK	83.000	-0.115	38.357
41	44.535	Top:top0|AudDSP:dsp0|pre_data[2]	Top:top0|AudDSP:dsp0|output_data[12]	AUD_BCLK	AUD_BCLK	83.000	-0.115	38.357



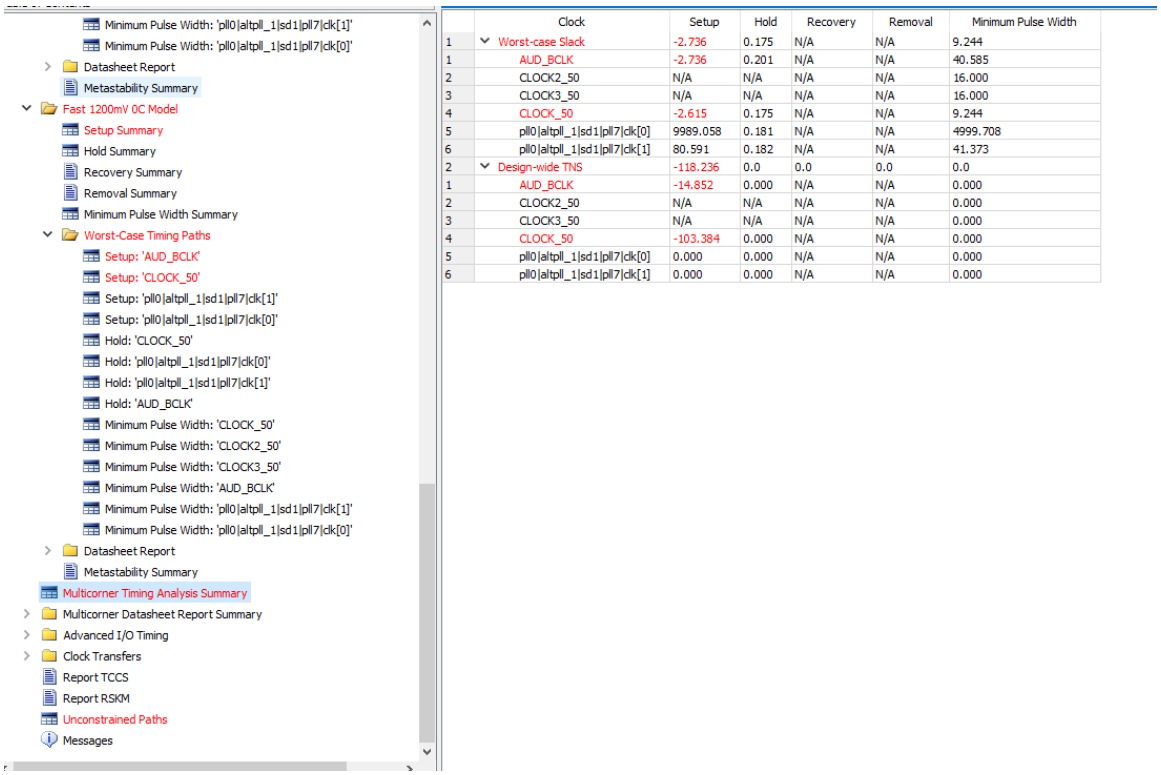
	Slack	From Node	To Node	Launch Clock	Latch Clock	Relationship	Clock Skew	Data Delay
1	-0.643	Top:top0|state_r.S_PLAY	Top:top0|time_counter_r[27]	AUD_BCLK	CLOCK_50	1.000	-0.307	1.313
2	-0.643	Top:top0|state_r.S_PLAY	Top:top0|time_counter_r[15]	AUD_BCLK	CLOCK_50	1.000	-0.307	1.313
3	-0.643	Top:top0|state_r.S_PLAY	Top:top0|time_counter_r[16]	AUD_BCLK	CLOCK_50	1.000	-0.307	1.313
4	-0.643	Top:top0|state_r.S_PLAY	Top:top0|time_counter_r[17]	AUD_BCLK	CLOCK_50	1.000	-0.307	1.313
5	-0.643	Top:top0|state_r.S_PLAY	Top:top0|time_counter_r[18]	AUD_BCLK	CLOCK_50	1.000	-0.307	1.313
6	-0.643	Top:top0|state_r.S_PLAY	Top:top0|time_counter_r[19]	AUD_BCLK	CLOCK_50	1.000	-0.307	1.313
7	-0.643	Top:top0|state_r.S_PLAY	Top:top0|time_counter_r[20]	AUD_BCLK	CLOCK_50	1.000	-0.307	1.313
8	-0.643	Top:top0|state_r.S_PLAY	Top:top0|time_counter_r[21]	AUD_BCLK	CLOCK_50	1.000	-0.307	1.313
9	-0.643	Top:top0|state_r.S_PLAY	Top:top0|time_counter_r[22]	AUD_BCLK	CLOCK_50	1.000	-0.307	1.313
10	-0.643	Top:top0|state_r.S_PLAY	Top:top0|time_counter_r[23]	AUD_BCLK	CLOCK_50	1.000	-0.307	1.313
11	-0.643	Top:top0|state_r.S_PLAY	Top:top0|time_counter_r[24]	AUD_BCLK	CLOCK_50	1.000	-0.307	1.313
12	-0.643	Top:top0|state_r.S_PLAY	Top:top0|time_counter_r[25]	AUD_BCLK	CLOCK_50	1.000	-0.307	1.313
13	-0.643	Top:top0|state_r.S_PLAY	Top:top0|time_counter_r[26]	AUD_BCLK	CLOCK_50	1.000	-0.307	1.313
14	-0.643	Top:top0|state_r.S_PLAY	Top:top0|time_counter_r[29]	AUD_BCLK	CLOCK_50	1.000	-0.307	1.313
15	-0.643	Top:top0|state_r.S_PLAY	Top:top0|time_counter_r[28]	AUD_BCLK	CLOCK_50	1.000	-0.307	1.313
16	-0.643	Top:top0|state_r.S_PLAY	Top:top0|time_counter_r[30]	AUD_BCLK	CLOCK_50	1.000	-0.307	1.313
17	-0.620	Top:top0|state_r.S_PLAY	Top:top0|time_counter_r[0]	AUD_BCLK	CLOCK_50	1.000	-0.305	1.292
18	-0.620	Top:top0|state_r.S_PLAY	Top:top0|time_counter_r[1]	AUD_BCLK	CLOCK_50	1.000	-0.305	1.292
19	-0.620	Top:top0|state_r.S_PLAY	Top:top0|time_counter_r[2]	AUD_BCLK	CLOCK_50	1.000	-0.305	1.292
20	-0.620	Top:top0|state_r.S_PLAY	Top:top0|time_counter_r[3]	AUD_BCLK	CLOCK_50	1.000	-0.305	1.292
21	-0.620	Top:top0|state_r.S_PLAY	Top:top0|time_counter_r[4]	AUD_BCLK	CLOCK_50	1.000	-0.305	1.292
22	-0.620	Top:top0|state_r.S_PLAY	Top:top0|time_counter_r[5]	AUD_BCLK	CLOCK_50	1.000	-0.305	1.292
23	-0.620	Top:top0|state_r.S_PLAY	Top:top0|time_counter_r[6]	AUD_BCLK	CLOCK_50	1.000	-0.305	1.292
24	-0.620	Top:top0|state_r.S_PLAY	Top:top0|time_counter_r[7]	AUD_BCLK	CLOCK_50	1.000	-0.305	1.292
25	-0.620	Top:top0|state_r.S_PLAY	Top:top0|time_counter_r[8]	AUD_BCLK	CLOCK_50	1.000	-0.305	1.292
26	-0.620	Top:top0|state_r.S_PLAY	Top:top0|time_counter_r[9]	AUD_BCLK	CLOCK_50	1.000	-0.305	1.292
27	-0.620	Top:top0|state_r.S_PLAY	Top:top0|time_counter_r[10]	AUD_BCLK	CLOCK_50	1.000	-0.305	1.292
28	-0.620	Top:top0|state_r.S_PLAY	Top:top0|time_counter_r[11]	AUD_BCLK	CLOCK_50	1.000	-0.305	1.292
29	-0.620	Top:top0|state_r.S_PLAY	Top:top0|time_counter_r[12]	AUD_BCLK	CLOCK_50	1.000	-0.305	1.292
30	-0.620	Top:top0|state_r.S_PLAY	Top:top0|time_counter_r[13]	AUD_BCLK	CLOCK_50	1.000	-0.305	1.292
31	-0.620	Top:top0|state_r.S_PLAY	Top:top0|time_counter_r[14]	AUD_BCLK	CLOCK_50	1.000	-0.305	1.292
32	-0.572	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[27]	AUD_BCLK	CLOCK_50	1.000	-0.305	1.244
33	-0.572	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[15]	AUD_BCLK	CLOCK_50	1.000	-0.305	1.244
34	-0.572	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[16]	AUD_BCLK	CLOCK_50	1.000	-0.305	1.244
35	-0.572	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[17]	AUD_BCLK	CLOCK_50	1.000	-0.305	1.244
36	-0.572	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[18]	AUD_BCLK	CLOCK_50	1.000	-0.305	1.244
37	-0.572	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[19]	AUD_BCLK	CLOCK_50	1.000	-0.305	1.244
38	-0.572	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[20]	AUD_BCLK	CLOCK_50	1.000	-0.305	1.244
39	-0.572	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[21]	AUD_BCLK	CLOCK_50	1.000	-0.305	1.244
40	-0.572	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[22]	AUD_BCLK	CLOCK_50	1.000	-0.305	1.244
41	-0.572	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[23]	AUD_BCLK	CLOCK_50	1.000	-0.305	1.244
42	-0.572	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[24]	AUD_BCLK	CLOCK_50	1.000	-0.305	1.244



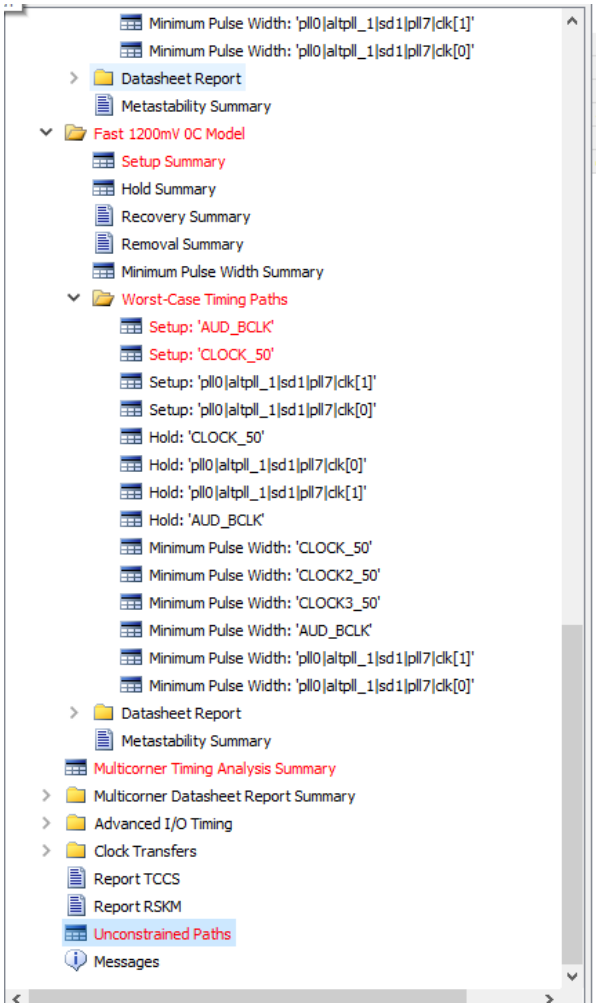
	Slack	From Node	To Node	Launch Clock	Latch Clock	Relationship	Clock Skew	Data Delay
43	-0.572	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[25]	AUD_BCLK	CLOCK_50	1.000	-0.305	1.244
44	-0.572	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[26]	AUD_BCLK	CLOCK_50	1.000	-0.305	1.244
45	-0.572	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[29]	AUD_BCLK	CLOCK_50	1.000	-0.305	1.244
46	-0.572	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[28]	AUD_BCLK	CLOCK_50	1.000	-0.305	1.244
47	-0.572	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[30]	AUD_BCLK	CLOCK_50	1.000	-0.305	1.244
48	-0.543	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[0]	AUD_BCLK	CLOCK_50	1.000	-0.303	1.217
49	-0.543	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[1]	AUD_BCLK	CLOCK_50	1.000	-0.303	1.217
50	-0.543	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[2]	AUD_BCLK	CLOCK_50	1.000	-0.303	1.217
51	-0.543	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[3]	AUD_BCLK	CLOCK_50	1.000	-0.303	1.217
52	-0.543	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[4]	AUD_BCLK	CLOCK_50	1.000	-0.303	1.217
53	-0.543	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[5]	AUD_BCLK	CLOCK_50	1.000	-0.303	1.217
54	-0.543	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[6]	AUD_BCLK	CLOCK_50	1.000	-0.303	1.217
55	-0.543	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[7]	AUD_BCLK	CLOCK_50	1.000	-0.303	1.217
56	-0.543	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[8]	AUD_BCLK	CLOCK_50	1.000	-0.303	1.217
57	-0.543	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[9]	AUD_BCLK	CLOCK_50	1.000	-0.303	1.217
58	-0.543	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[10]	AUD_BCLK	CLOCK_50	1.000	-0.303	1.217
59	-0.543	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[11]	AUD_BCLK	CLOCK_50	1.000	-0.303	1.217
60	-0.543	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[12]	AUD_BCLK	CLOCK_50	1.000	-0.303	1.217
61	-0.543	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[13]	AUD_BCLK	CLOCK_50	1.000	-0.303	1.217
62	-0.543	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[14]	AUD_BCLK	CLOCK_50	1.000	-0.303	1.217
63	-0.526	Top:top0|state_r.S_PLAY	Top:top0|showtime_r[0]	AUD_BCLK	CLOCK_50	1.000	-0.115	1.388
64	-0.526	Top:top0|state_r.S_PLAY	Top:top0|showtime_r[1]	AUD_BCLK	CLOCK_50	1.000	-0.115	1.388
65	-0.526	Top:top0|state_r.S_PLAY	Top:top0|showtime_r[2]	AUD_BCLK	CLOCK_50	1.000	-0.115	1.388
66	-0.526	Top:top0|state_r.S_PLAY	Top:top0|showtime_r[3]	AUD_BCLK	CLOCK_50	1.000	-0.115	1.388
67	-0.526	Top:top0|state_r.S_PLAY	Top:top0|showtime_r[4]	AUD_BCLK	CLOCK_50	1.000	-0.115	1.388
68	-0.526	Top:top0|state_r.S_PLAY	Top:top0|showtime_r[5]	AUD_BCLK	CLOCK_50	1.000	-0.115	1.388
69	-0.523	Top:top0|state_r.S_RECD	Top:top0|showtime_r[0]	AUD_BCLK	CLOCK_50	1.000	-0.022	1.478
70	-0.523	Top:top0|state_r.S_RECD	Top:top0|showtime_r[1]	AUD_BCLK	CLOCK_50	1.000	-0.022	1.478
71	-0.523	Top:top0|state_r.S_RECD	Top:top0|showtime_r[2]	AUD_BCLK	CLOCK_50	1.000	-0.022	1.478
72	-0.523	Top:top0|state_r.S_RECD	Top:top0|showtime_r[3]	AUD_BCLK	CLOCK_50	1.000	-0.022	1.478
73	-0.523	Top:top0|state_r.S_RECD	Top:top0|showtime_r[4]	AUD_BCLK	CLOCK_50	1.000	-0.022	1.478
74	-0.523	Top:top0|state_r.S_RECD	Top:top0|showtime_r[5]	AUD_BCLK	CLOCK_50	1.000	-0.022	1.478
75	-0.507	Top:top0|state_r.S_RECD_PAUSE	Top:top0|time_counter_r[0]	AUD_BCLK	CLOCK_50	1.000	-0.305	1.179
76	-0.507	Top:top0|state_r.S_RECD_PAUSE	Top:top0|time_counter_r[1]	AUD_BCLK	CLOCK_50	1.000	-0.305	1.179
77	-0.507	Top:top0|state_r.S_RECD_PAUSE	Top:top0|time_counter_r[2]	AUD_BCLK	CLOCK_50	1.000	-0.305	1.179
78	-0.507	Top:top0|state_r.S_RECD_PAUSE	Top:top0|time_counter_r[3]	AUD_BCLK	CLOCK_50	1.000	-0.305	1.179
79	-0.507	Top:top0|state_r.S_RECD_PAUSE	Top:top0|time_counter_r[4]	AUD_BCLK	CLOCK_50	1.000	-0.305	1.179
80	-0.507	Top:top0|state_r.S_RECD_PAUSE	Top:top0|time_counter_r[5]	AUD_BCLK	CLOCK_50	1.000	-0.305	1.179
81	-0.507	Top:top0|state_r.S_RECD_PAUSE	Top:top0|time_counter_r[6]	AUD_BCLK	CLOCK_50	1.000	-0.305	1.179
82	-0.507	Top:top0|state_r.S_RECD_PAUSE	Top:top0|time_counter_r[7]	AUD_BCLK	CLOCK_50	1.000	-0.305	1.179
83	-0.507	Top:top0|state_r.S_RECD_PAUSE	Top:top0|time_counter_r[8]	AUD_BCLK	CLOCK_50	1.000	-0.305	1.179
84	-0.507	Top:top0|state_r.S_RECD_PAUSE	Top:top0|time_counter_r[9]	AUD_BCLK	CLOCK_50	1.000	-0.305	1.179



	Slack	From Node	To Node	Launch Clock	Latch Clock	Relationship	Clock Skew	Data Delay
60	-0.543	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[12]	AUD_BCLK	CLOCK_50	1.000	-0.303	1.217
61	-0.543	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[13]	AUD_BCLK	CLOCK_50	1.000	-0.303	1.217
62	-0.543	Top:top0|state_r.S_WAIT	Top:top0|time_counter_r[14]	AUD_BCLK	CLOCK_50	1.000	-0.303	1.217
63	-0.526	Top:top0|state_r.S_PLAY	Top:top0|showtime_r[0]	AUD_BCLK	CLOCK_50	1.000	-0.115	1.388
64	-0.526	Top:top0|state_r.S_PLAY	Top:top0|showtime_r[1]	AUD_BCLK	CLOCK_50	1.000	-0.115	1.388
65	-0.526	Top:top0|state_r.S_PLAY	Top:top0|showtime_r[2]	AUD_BCLK	CLOCK_50	1.000	-0.115	1.388
66	-0.526	Top:top0|state_r.S_PLAY	Top:top0|showtime_r[3]	AUD_BCLK	CLOCK_50	1.000	-0.115	1.388
67	-0.526	Top:top0|state_r.S_PLAY	Top:top0|showtime_r[4]	AUD_BCLK	CLOCK_50	1.000	-0.115	1.388
68	-0.526	Top:top0|state_r.S_PLAY	Top:top0|showtime_r[5]	AUD_BCLK	CLOCK_50	1.000	-0.115	1.388
69	-0.523	Top:top0|state_r.S_RECD	Top:top0|showtime_r[0]	AUD_BCLK	CLOCK_50	1.000	-0.022	1.478
70	-0.523	Top:top0|state_r.S_RECD	Top:top0|showtime_r[1]	AUD_BCLK	CLOCK_50	1.000	-0.022	1.478
71	-0.523	Top:top0|state_r.S_RECD	Top:top0|showtime_r[2]	AUD_BCLK	CLOCK_50	1.000	-0.022	1.478
72	-0.523	Top:top0|state_r.S_RECD	Top:top0|showtime_r[3]	AUD_BCLK	CLOCK_50	1.000	-0.022	1.478
73	-0.523	Top:top0|state_r.S_RECD	Top:top0|showtime_r[4]	AUD_BCLK	CLOCK_50	1.000	-0.022	1.478
74	-0.523	Top:top0|state_r.S_RECD	Top:top0|showtime_r[5]	AUD_BCLK	CLOCK_50	1.000	-0.022	1.478
75	-0.507	Top:top0|state_r.S_RECD_PAUSE	Top:top0|time_counter_r[0]	AUD_BCLK	CLOCK_50	1.000	-0.305	1.179
76	-0.507	Top:top0|state_r.S_RECD_PAUSE	Top:top0|time_counter_r[1]	AUD_BCLK	CLOCK_50	1.000	-0.305	1.179
77	-0.507	Top:top0|state_r.S_RECD_PAUSE	Top:top0|time_counter_r[2]	AUD_BCLK	CLOCK_50	1.000	-0.305	1.179
78	-0.507	Top:top0|state_r.S_RECD_PAUSE	Top:top0|time_counter_r[3]	AUD_BCLK	CLOCK_50	1.000	-0.305	1.179
79	-0.507	Top:top0|state_r.S_RECD_PAUSE	Top:top0|time_counter_r[4]	AUD_BCLK	CLOCK_50	1.000	-0.305	1.179
80	-0.507	Top:top0|state_r.S_RECD_PAUSE	Top:top0|time_counter_r[5]	AUD_BCLK	CLOCK_50	1.000	-0.305	1.179
81	-0.507	Top:top0|state_r.S_RECD_PAUSE	Top:top0|time_counter_r[6]	AUD_BCLK	CLOCK_50	1.000	-0.305	1.179
82	-0.507	Top:top0|state_r.S_RECD_PAUSE	Top:top0|time_counter_r[7]	AUD_BCLK	CLOCK_50	1.000	-0.305	1.179
83	-0.507	Top:top0|state_r.S_RECD_PAUSE	Top:top0|time_counter_r[8]	AUD_BCLK	CLOCK_50	1.000	-0.305	1.179
84	-0.507	Top:top0|state_r.S_RECD_PAUSE	Top:top0|time_counter_r[9]	AUD_BCLK	CLOCK_50	1.000	-0.305	1.179
85	-0.507	Top:top0|state_r.S_RECD_PAUSE	Top:top0|time_counter_r[10]	AUD_BCLK	CLOCK_50	1.000	-0.305	1.179
86	-0.507	Top:top0|state_r.S_RECD_PAUSE	Top:top0|time_counter_r[11]	AUD_BCLK	CLOCK_50	1.000	-0.305	1.179
87	-0.507	Top:top0|state_r.S_RECD_PAUSE	Top:top0|time_counter_r[12]	AUD_BCLK	CLOCK_50	1.000	-0.305	1.179
88	-0.507	Top:top0|state_r.S_RECD_PAUSE	Top:top0|time_counter_r[13]	AUD_BCLK	CLOCK_50	1.000	-0.305	1.179
89	-0.507	Top:top0|state_r.S_RECD_PAUSE	Top:top0|time_counter_r[14]	AUD_BCLK	CLOCK_50	1.000	-0.305	1.179
90	-0.453	Top:top0|state_r.S_PLAY_PAUSE	Top:top0|time_counter_r[0]	AUD_BCLK	CLOCK_50	1.000	-0.305	1.125
91	-0.453	Top:top0|state_r.S_PLAY_PAUSE	Top:top0|time_counter_r[1]	AUD_BCLK	CLOCK_50	1.000	-0.305	1.125
92	-0.453	Top:top0|state_r.S_PLAY_PAUSE	Top:top0|time_counter_r[2]	AUD_BCLK	CLOCK_50	1.000	-0.305	1.125
93	-0.453	Top:top0|state_r.S_PLAY_PAUSE	Top:top0|time_counter_r[3]	AUD_BCLK	CLOCK_50	1.000	-0.305	1.125
94	-0.453	Top:top0|state_r.S_PLAY_PAUSE	Top:top0|time_counter_r[4]	AUD_BCLK	CLOCK_50	1.000	-0.305	1.125
95	-0.453	Top:top0|state_r.S_PLAY_PAUSE	Top:top0|time_counter_r[5]	AUD_BCLK	CLOCK_50	1.000	-0.305	1.125
96	-0.453	Top:top0|state_r.S_PLAY_PAUSE	Top:top0|time_counter_r[6]	AUD_BCLK	CLOCK_50	1.000	-0.305	1.125
97	-0.453	Top:top0|state_r.S_PLAY_PAUSE	Top:top0|time_counter_r[7]	AUD_BCLK	CLOCK_50	1.000	-0.305	1.125
98	-0.453	Top:top0|state_r.S_PLAY_PAUSE	Top:top0|time_counter_r[8]	AUD_BCLK	CLOCK_50	1.000	-0.305	1.125
99	-0.453	Top:top0|state_r.S_PLAY_PAUSE	Top:top0|time_counter_r[9]	AUD_BCLK	CLOCK_50	1.000	-0.305	1.125
100	-0.453	Top:top0|state_r.S_PLAY_PAUSE	Top:top0|time_counter_r[10]	AUD_BCLK	CLOCK_50	1.000	-0.305	1.125



	Clock	Setup	Hold	Recovery	Removal	Minimum Pulse Width
1	Worst-case Slack	-2.736	0.175	N/A	N/A	9.244
1	AUD_BCLK	-2.736	0.201	N/A	N/A	40.585
2	CLOCK2_50	N/A	N/A	N/A	N/A	16.000
3	CLOCK3_50	N/A	N/A	N/A	N/A	16.000
4	CLOCK_50	-2.615	0.175	N/A	N/A	9.244
5	pll0|altpll_1|sd1|pll7|clk[0]	9989.058	0.181	N/A	N/A	4999.708
6	pll0|altpll_1|sd1|pll7|clk[1]	80.591	0.182	N/A	N/A	41.373
2	Design-wide TNS	-118.236	0.0	0.0	0.0	0.0
1	AUD_BCLK	-14.852	0.000	N/A	N/A	0.000
2	CLOCK2_50	N/A	N/A	N/A	N/A	0.000
3	CLOCK3_50	N/A	N/A	N/A	N/A	0.000
4	CLOCK_50	-103.384	0.000	N/A	N/A	0.000
5	pll0|altpll_1|sd1|pll7|clk[0]	0.000	0.000	N/A	N/A	0.000
6	pll0|altpll_1|sd1|pll7|clk[1]	0.000	0.000	N/A	N/A	0.000



	Property	Setup	Hold
1	Illegal Clocks	0	0
2	Unconstrained Clocks	0	0
3	Unconstrained Input Ports	29	29
4	Unconstrained Input Port Paths	1048	1048
5	Unconstrained Output Ports	80	80
6	Unconstrained Output Port Paths	299	299

遇到的問題與解決辦法

I2C 的規範很多，一開始沒有全部顧及到，沒辦法錄音及播放，後來查資料還有和同學討論，再加上用 SevenHexDecoder 顯示目前 Top 所在的 state 在板子上才終於修正並確定了 I2C 有合理運作。

一開始錄音播放時雖然有聲音，但會有許多雜訊，似乎是一個給 SRAM data 的 register 值的問題，應該是我們在原本以為沒差的地方把他的值從鎖住變成歸回到 0 就解決了。

Bonus 設計

用七段顯示器顯示目前 Top 工作狀態在閒置，錄音，錄音暫停，播放或播放暫

停。

用七段顯示器顯示目前的錄音時間和目前播放到多少秒的錄音。

用七段顯示器顯示目前的播放是快速還是慢速，是 2(1/2)倍還是 3(1/3)倍...，且可在播放過程中隨意調整速度。

能夠倒著播放錄好的音訊。