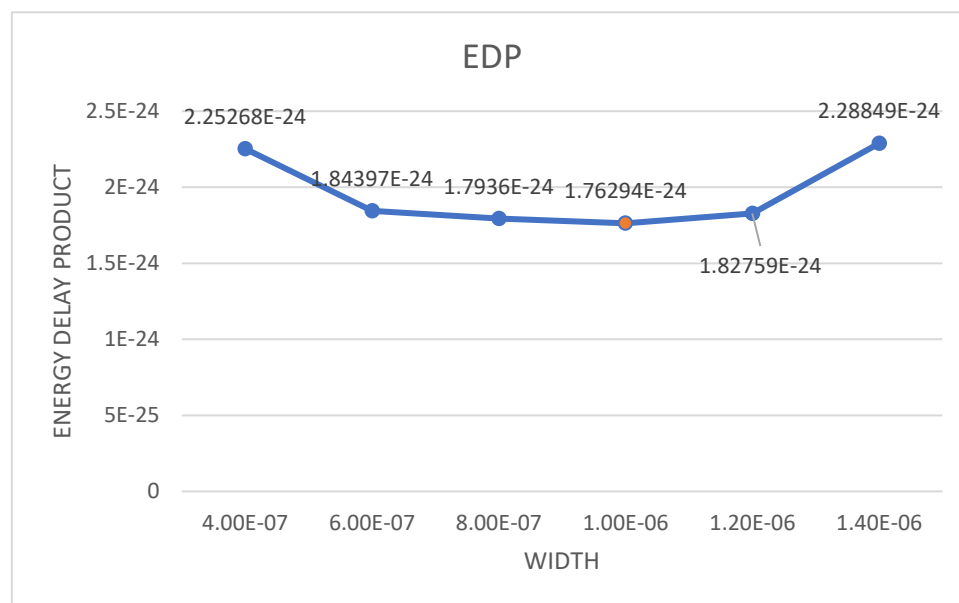


EFFICIENT MSFF DESIGN

OBSERVING RISE TRANSITION AT OUTPUT SIDE

RISE	TRANSITION =5 % OF CLOCK PERIOD					
	SETUP	CLK-Q	D-Q	POWER	param width	EDP
	7.20E-11	8.92E-11	1.61E-10	8.67E-05	4.00E-07	2.25268E-24
	6.60E-11	6.35E-11	1.30E-10	1.10E-04	6.00E-07	1.84397E-24
	6.40E-11	5.27E-11	1.17E-10	1.32E-04	8.00E-07	1.7936E-24
	5.88E-11	4.81E-11	1.07E-10	1.54E-04	1.00E-06	1.76294E-24
	5.58E-11	4.59E-11	1.02E-10	1.77E-04	1.20E-06	1.82759E-24
	8.00E-11	2.80E-11	1.08E-10	1.96E-04	1.40E-06	2.28849E-24

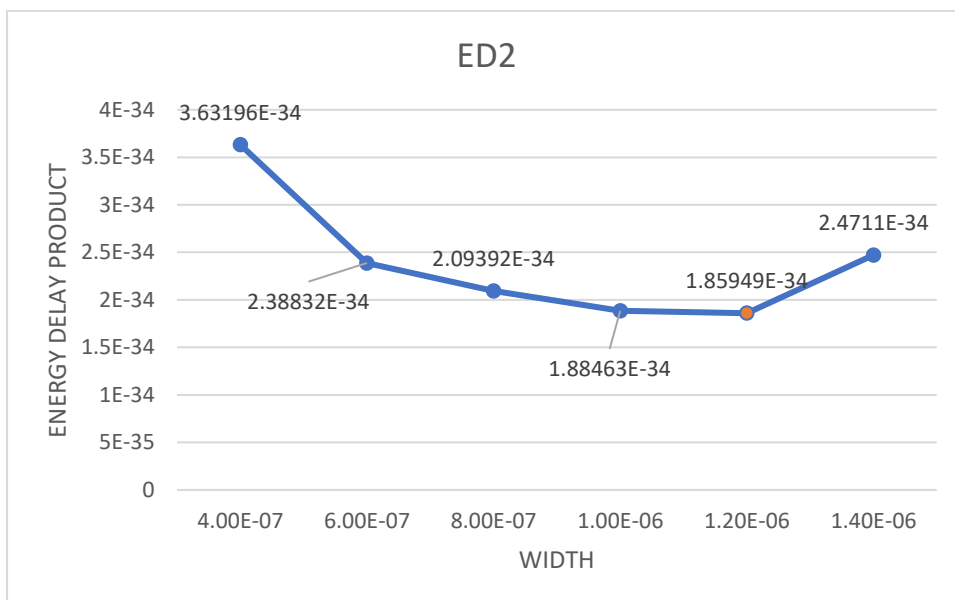
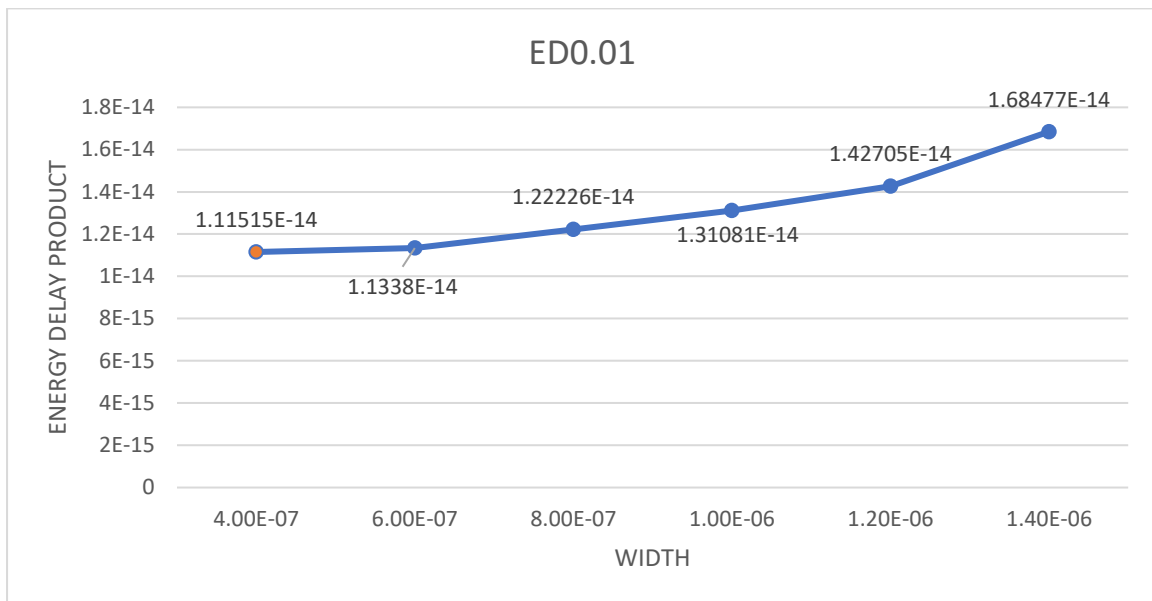
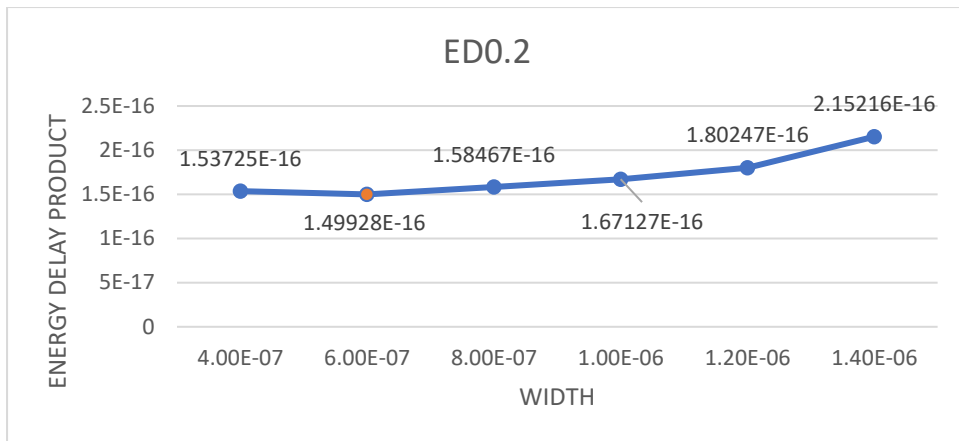
EDP GRAPH:



In minimum edp product the delay:107ps, Power: 1.54E-04

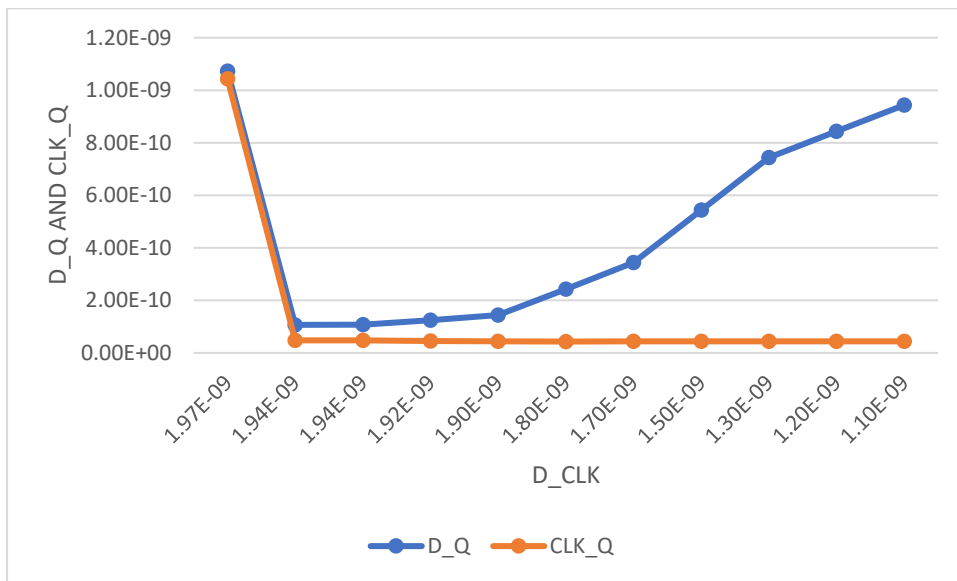
Other cost function graph:

EDP	ED2	ENERGY	D0.2	ED0.2	D0.1	ED0.1	D0.01	ED0.01
2.25268E-24	3.63196E-34	1.3972E-14	0.011002424	1.53725E-16	0.104892438	1.46555E-15	0.798131439	1.11515E-14
1.84397E-24	2.38832E-34	1.42369E-14	0.010530957	1.49928E-16	0.102620451	1.46099E-15	0.796385587	1.1338E-14
1.7936E-24	2.09392E-34	1.53635E-14	0.010314468	1.58467E-16	0.10156017	1.56032E-15	0.795558906	1.22226E-14
1.76294E-24	1.88463E-34	1.64911E-14	0.010134389	1.67127E-16	0.100669703	1.66015E-15	0.794858602	1.31081E-14
1.82759E-24	1.85949E-34	1.79624E-14	0.010034665	1.80247E-16	0.100173174	1.79935E-15	0.794465685	1.42705E-14
2.28849E-24	2.4711E-34	2.11937E-14	0.010154731	2.15216E-16	0.100770685	2.1357E-15	0.794938299	1.68477E-14

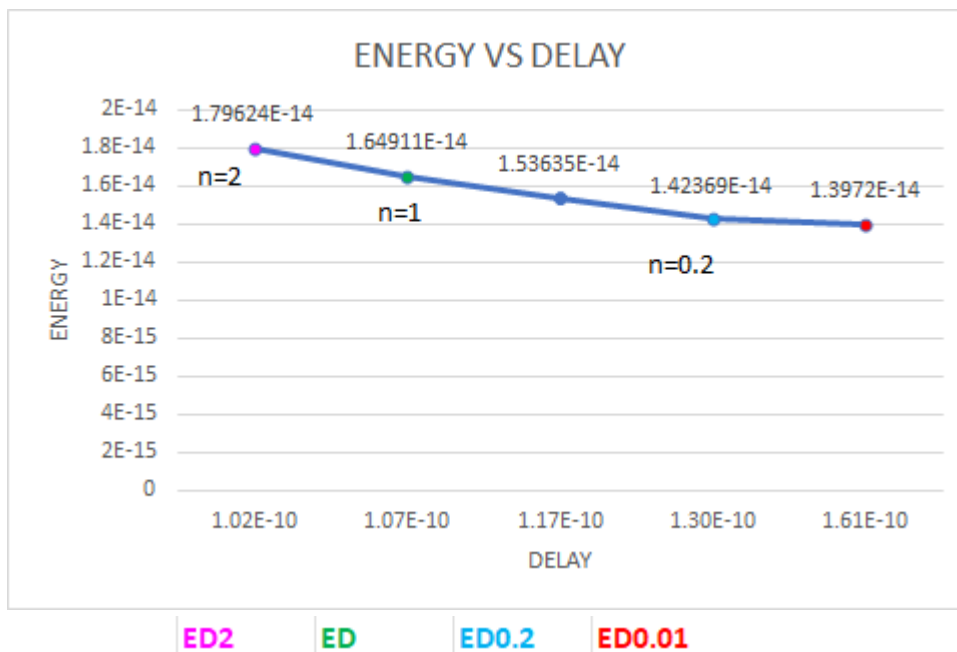


SETUP TIME CHARACTERIZATION

RISE TIME SETUP CHARACTERISTICS					
	D_CLK	SETUP	CLK_Q	D_Q	
	1.97E-09	3.00E-11	1.04E-09	1.07E-09	
	1.94E-09	5.88E-11	4.81E-11	1.07E-10	
	1.94E-09	6.00E-11	4.77E-11	1.08E-10	
	1.92E-09	8.00E-11	4.50E-11	1.25E-10	
	1.90E-09	1.00E-10	4.38E-11	1.44E-10	
	1.80E-09	2.00E-10	4.33E-11	2.43E-10	
	1.70E-09	3.00E-10	4.37E-11	3.44E-10	
	1.50E-09	5.00E-10	4.37E-11	5.44E-10	
	1.30E-09	7.00E-10	4.37E-11	7.44E-10	
	1.20E-09	8.00E-10	4.37E-11	8.44E-10	
	1.10E-09	8.50E-10	4.37E-11	9.44E-10	



ENERGY wrt DELAY

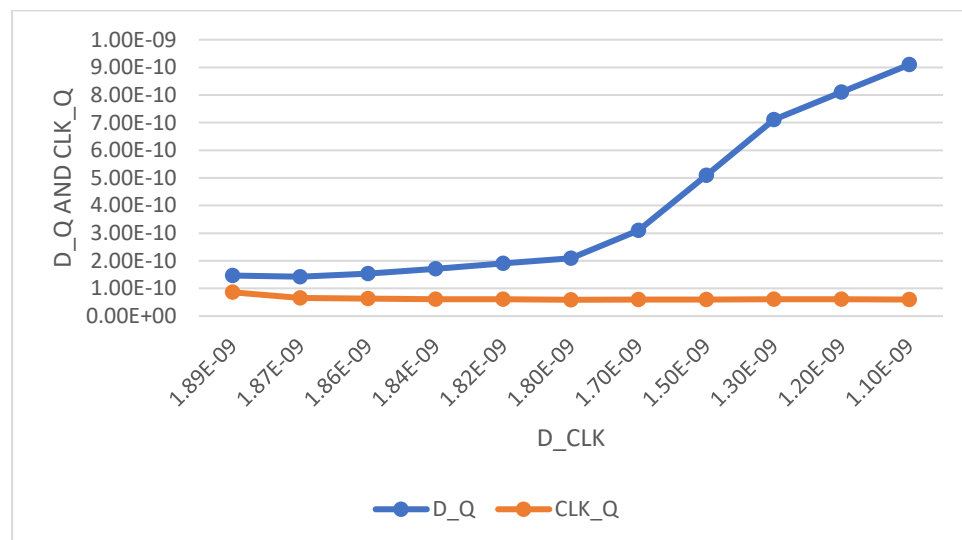


OBSERVING FALL TRANSITION AT OUTPUT SIDE

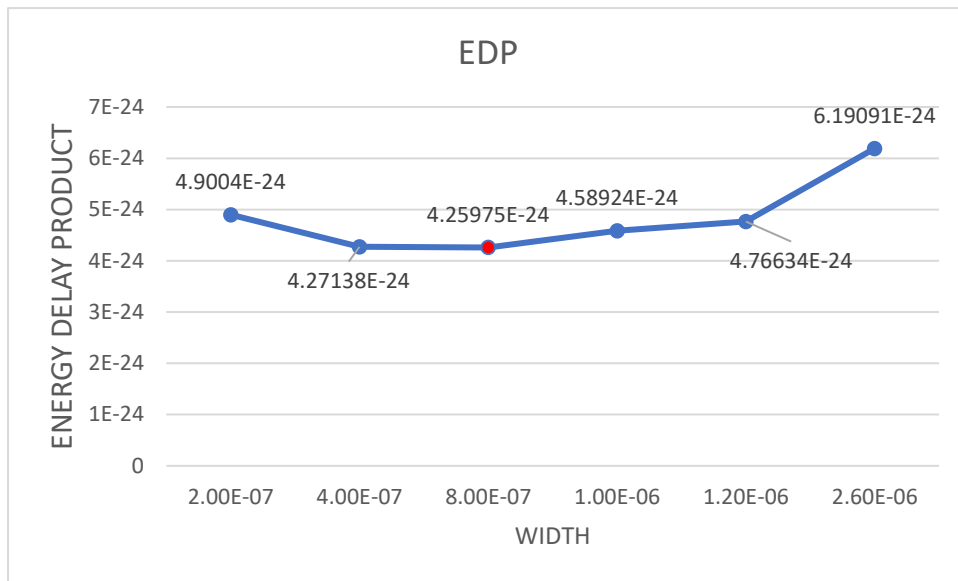
TRANSITION =5 % OF CLOCK PERIOD							
FALL	SETUP	CLK-Q	D-Q	POWER	param width	EDP	
	1.02E-10	1.46E-10	2.47E-10	8.01E-05	2.00E-07	4.9004E-24	
	9.30E-11	1.11E-10	2.04E-10	1.03E-04	4.00E-07	4.27138E-24	
	7.93E-11	8.96E-11	1.69E-10	1.49E-04	8.00E-07	4.25975E-24	
	8.00E-11	8.30E-11	1.63E-10	1.73E-04	1.00E-06	4.58924E-24	
	7.80E-11	7.80E-11	1.56E-10	1.96E-04	1.20E-06	4.76634E-24	
	7.50E-11	5.67E-11	1.32E-10	3.57E-04	2.60E-06	6.19091E-24	

SETUP TIME CHARACTERIZATION

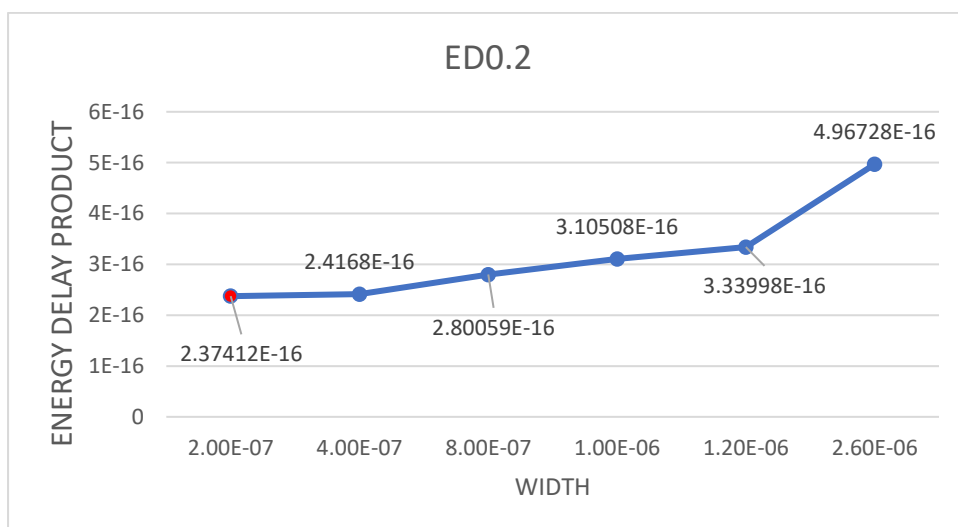
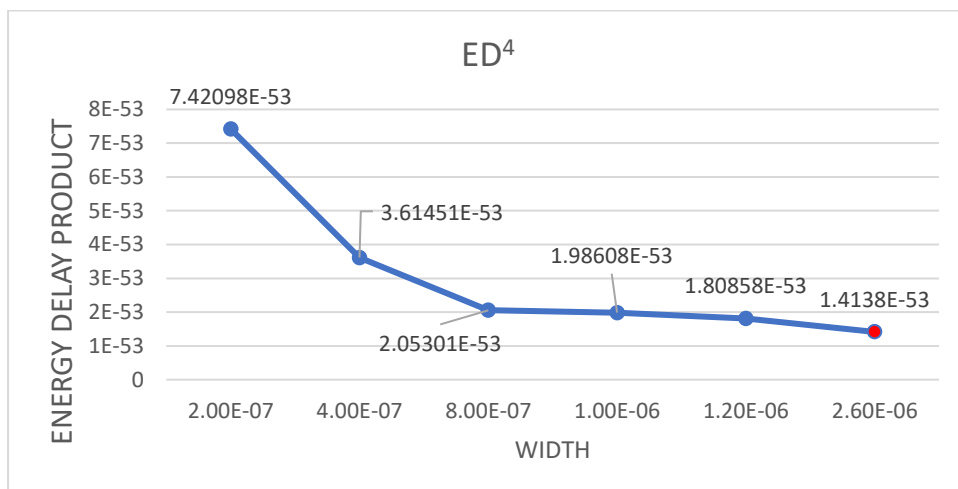
FALL SETUP TIME CHARACTERISTICS					
	D_CLK	SETUP	CLK_Q	D_Q	
	1.89E-09	6.00E-11	8.62E-11	1.46E-10	
	1.87E-09	7.68E-11	6.58E-11	1.43E-10	
	1.86E-09	9.00E-11	6.33E-11	1.53E-10	
	1.84E-09	1.10E-10	6.09E-11	1.71E-10	
	1.82E-09	1.30E-10	6.08E-11	1.91E-10	
	1.80E-09	1.50E-10	5.92E-11	2.09E-10	
	1.70E-09	2.50E-10	6.00E-11	3.10E-10	
	1.50E-09	4.50E-10	5.98E-11	5.10E-10	
	1.30E-09	6.50E-10	6.05E-11	7.11E-10	
	1.20E-09	7.50E-10	6.05E-11	8.11E-10	
	1.10E-09	8.50E-10	5.95E-11	9.10E-10	



ENERGY DELAY PRODUCT GRAPH

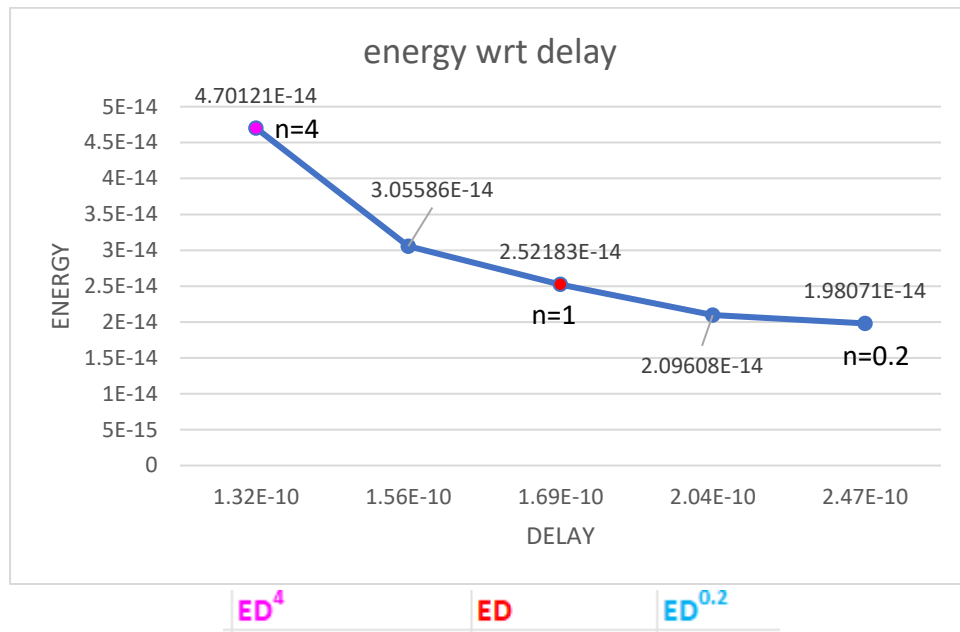


In minimum edp product the delay:169ps, Power:1.49E-04



EDP	energy	ed2	D0.2	ED0.2	ED4
4.9004E-24	1.98071E-14	1.21239E-33	0.011986214	2.37412E-16	7.42098E-53
4.27138E-24	2.09608E-14	8.7042E-34	0.011530074	2.4168E-16	3.61451E-53
4.25975E-24	2.52183E-14	7.19537E-34	0.011105388	2.80059E-16	2.05301E-53
4.58924E-24	2.81615E-14	7.4787E-34	0.011025975	3.10508E-16	1.98608E-53
4.76634E-24	3.05586E-14	7.43422E-34	0.010929748	3.33998E-16	1.80858E-53
6.19091E-24	4.70121E-14	8.15264E-34	0.010565957	4.96728E-16	1.4138E-53

ENERGY WRT DELAY



POWER CALCULATION FOR EFFICIENT CIRCUIT

FOR EFFICIENT CIRCUIT

RISE DELAY : 117Ps FALL DELAY : 169Ps

POWER CONSUMPTION FOR DIFFERENT ACTIVITY FACTOR

POWER		
STATIC POWER CALCULATION		
	CLK:DATA	STATIC POWER
	00:00	3.69E-08
	00:01	4.81E-08
	01:00	7.70E-08
	01:01	7.26E-08
	AVG	5.87E-08
DATA SWITCHING POWER		
	CLK	POWER
	0	6.13E-05
	1	1.72E-05
	AVG	3.92E-05
CLOCK SWITCHING POWER		
	DATA	POWER
	0	6.38E-05
	1	6.93E-05
	AVG	6.66E-05
	TOTAL POWER	1.32E-04
	DYNAMIC POWER	1.31E-04
	REGISTER SWITCHING POW	9.23E-05

POWER CONSUMPTION FOR DIFFERENT ACTIVITY FACTOR

ACTIVITY FACTOR	POWER
0	6.38E-05
0.1	7.74E-05
0.2	9.37E-05
0.3	1.06E-04
0.4	1.24E-04
0.5	1.49E-04

