

## Comparison of the 3 adder designs

Design	Critical Path Delay	Hardware Requirements																				
Ripple Carry Binary Adder	=Max(delays of all paths) = 7.118 ns	<div>Utilization<div>Post-Synthesis</div><div>Post-Implementation</div></div> <div>Graph   Table</div> <table><thead><tr><th>Resource</th><th>Utilization</th><th>Available</th><th>Utilization %</th></tr></thead><tbody><tr><td>LUT</td><td>8</td><td>63400</td><td>0.01</td></tr><tr><td>IO</td><td>26</td><td>210</td><td>12.38</td></tr></tbody></table>	Resource	Utilization	Available	Utilization %	LUT	8	63400	0.01	IO	26	210	12.38								
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Hybrid Binary Adder	=Max(delays of all paths) = 7.118 ns	<div>Utilization<div>Post-Synthesis</div><div>Post-Implementation</div></div> <div>Graph   Table</div> <table><thead><tr><th>Resource</th><th>Utilization</th><th>Available</th><th>Utilization %</th></tr></thead><tbody><tr><td>LUT</td><td>8</td><td>63400</td><td>0.01</td></tr><tr><td>IO</td><td>26</td><td>210</td><td>12.38</td></tr></tbody></table>	Resource	Utilization	Available	Utilization %	LUT	8	63400	0.01	IO	26	210	12.38								
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Bit-serial Binary Adder	=Max(delays of all paths) = 4.090 ns	<div>Utilization<div>Post-Synthesis</div><div>Post-Implementation</div></div> <div>Graph   Table</div> <table><thead><tr><th>Resource</th><th>Utilization</th><th>Available</th><th>Utilization...</th></tr></thead><tbody><tr><td>LUT</td><td>69</td><td>63400</td><td>0.11</td></tr><tr><td>FF</td><td>54</td><td>126800</td><td>0.04</td></tr><tr><td>IO</td><td>27</td><td>210</td><td>12.86</td></tr><tr><td>BUFG</td><td>1</td><td>32</td><td>3.13</td></tr></tbody></table>	Resource	Utilization	Available	Utilization...	LUT	69	63400	0.11	FF	54	126800	0.04	IO	27	210	12.86	BUFG	1	32	3.13
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