Design and Performance Analysis of Reversible RSG Gate using QCA

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Abstract

Quantum Dot Cellular automata employs the transistor less technology which overcomes the constraint of Moore’s Law i.e. in forthcoming time the number of transistor affixed on a single chip cannot be increased further as it will reduce the performance of any circuit. A Reversible logic can contribute to the designing as it has many advantages over conventional circuits such as no forfeit of profitable information, low power utilization designs, win back of input from the output. In today’s world each Nano-meter matters for the betterment of designs. In this paper, the improvement in the area of Reversible gates has been proposed so that the circuit could be more compact and efficient.

References


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Index Terms

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Keywords

Ancilla bit, Garbage Output, Hardware complexity, Quantum Cost, Delay, Multi-functionality, Reversible logic, Quantum computing.