Abstract :

In a previous work, a fully predictable and a sub-linear-runtime heuristic for the multiplication by a constant based on the radix-2^r arithmetic was developed. It is called RADIX-2^r. In this paper we focalize on the optimization of the average number of additions (Avg) to make RADIX-2^r more competitive with the existing heuristics. In this work, the obtained results are compared only to the standard Canonic Signed Digit (CSD) representation