A Low Power Algorithm for Division in Residue Number System (RNS)

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Abstract

A new algorithm for computing division in Residue Number System (RNS) is presented. The algorithm imposes no restrictions on the dividend and the divisor (except zero divisor), and requires no initial quotient estimation. It eliminates the need for the multipliers used in the previously reported algorithms. This makes the proposed algorithm suitable for low power applications.

Keywords: *Residue Number System, Division, Fractional Representation, Parity Checking, Low Power, VLSI.*