Techniques for the Design of High Speed and Low Power MAC Unit: A State-of-the-art Review

International Journal of Computer Applications
Foundation of Computer Science (FCS), NY, USA

Volume 148
Number 13

Year of Publication: 2016

Authors:
Anu, Prachi Chaudhary, Pawan Kumar Dahiya

10.5120/ijca2016911245

Abstract

The multiplication operation is used in many parts of a digital system or digital computer, usually in signal processing, video/graphics and scientific computation. With advances in technology, various techniques have been developed to design multipliers, which offer high speed, low power consumption and lesser area. Thus making them suitable for various high speeds, low power compact VLSI implementations. These three parameters i.e. power, area and speed are always traded off. In this paper, different techniques used for efficient operations resulting in high speed and low power consumption are discussed. Such as parallelism, pipelining, modified booth algorithm (MBA), spurious power suppression technique (SPST), block enabling technique.

References

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**Index Terms**

Computer Science  
Power Electronics

**Keywords**

Multiply and Accumulate (MAC), Modified Booth Algorithm (MBA), parallel modified booth multiplier, Spurious Power Suppression Technique (SPST), block enabling technique.