

Dynamic Voltage and Frequency Scaling (DVFS) scheme for multi-domains power management

Publisher: IEEE [Cite This](#)  PDF

Jeabin Lee ; Byeong-Gyu Nam ; Hoi-Jun Yoo [All Authors](#)

13
Cites in
Papers

2
Cites in
Patents

1702
Full
Text Views



Abstract

Document Sections

- I. Introduction
- II. DVFS Scheme for Multi-power Domains
- III. CocoLo (POWER Management Unit)
- IV. Measurement Results
- V. Conclusion

Abstract:

The power of 3 different power domains is managed by continuous co-locking of voltage and clock, dynamically varying clock frequency and supply voltage level from 90MHz to 200MHz and from 1.0V to 1.8V, respectively. A test 3D-graphics SoC is divided into 3 power domains and their power are managed separately. The workload of each domain is the control parameter to each power management unit (PMU). It takes 0.45mm² with 0.18μm CMOS process and consumes 5mW. Total SoC takes 17.2 mm² and consumes 52.4mW at full operation with triple domains power management.

Published in: [2007 IEEE Asian Solid-State Circuits Conference](#)

Date of Conference: 12-14 November 2007 **DOI:** [10.1109/ASSCC.2007.4425705](#)

Date Added to IEEE Xplore: 07 January 2008 **Publisher:** IEEE

► ISBN Information: **Conference Location:** Jeju, Korea (South)

- [Authors](#)
- [Figures](#)
- [References](#)
- [Citations](#)
- [Keywords](#)
- [Metrics](#)
- [More Like This](#)

Sign in to Continue Reading

Authors	▼
Figures	▼
References	▼
Citations	▼
Keywords	▼
Metrics	▼



Need
Full-Text

access to IEEE *Xplore*
for your organization?

CONTACT IEEE TO SUBSCRIBE >

IEEE Personal Account

CHANGE
USERNAME/PASSWORD

Purchase Details

PAYMENT OPTIONS
VIEW PURCHASED
DOCUMENTS

Profile Information

COMMUNICATIONS
PREFERENCES
PROFESSION AND
EDUCATION
TECHNICAL INTERESTS

Need Help?

US & CANADA: +1 800
678 4333
WORLDWIDE: +1 732
981 0060
CONTACT & SUPPORT

Follow

[f](#) [@](#) [in](#) [v](#)

About IEEE *Xplore* | Contact Us | Help | Accessibility | Terms of Use | Nondiscrimination Policy | IEEE Ethics Reporting [🔗](#) | Sitemap | IEEE Privacy Policy

A public charity, IEEE is the world's largest technical professional organization dedicated to advancing technology for the benefit of humanity.

© Copyright 2025 IEEE - All rights reserved, including rights for text and data mining and training of artificial intelligence and similar technologies.