

Woosik Kim

– Republic of Korea

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Work Experience

Samsung Electronics

IC Design Engineer

Korea

2022 – Present

High-Speed Memory PHY Development (HBM4)

- Designed and optimized write-path circuits, including parity blocks and I/O interfaces.
- Improved signal integrity and reduced power consumption by optimizing layout structures.
- Developed test vectors covering all PVT corners and automated verification using Python.
- Utilized Synopsys ICC2 for place-and-route and sign-off tools for final verification.

Analog IC Development

- Designed and validated LDO IPs for mobile and automotive applications.
- Conducted reliability simulations (TOTEM, PERC, PRsim) and HTOL tests.
- Automated large-scale chip measurements for mass production approval.

Education

Sogang University

B.Sc. in Electrical Engineering

Graduated Cum Laude

Overall GPA: 3.72/4.5, Major GPA: 3.95/4.5

Seoul, South Korea

2015 – 2022

Samsung Electronics Industry-Academia Scholarship Recipient

Sponsored by Samsung Electronics with a monthly stipend, leading to a post-graduation employment agreement.

Publications

IEEE ISSCC, 2024: A 950ns 0.5-to-5.5V 5G NR RF PA Supply Modulator with Floating Capacitor Control

Authors: Ik-Hwan Kim, Jeong-Il Seo, Younghwan Choo, Seungchan Park, Jaeyeol Han, **Woosik Kim**, Sungyoub Jung, Taehyuk Ko, Dongsu Kim, Jongwoo Lee, Sungung Kwak

IEEE VLSI Symposium, 2023: 5G NR RF PA Supply Modulator Supporting 179ns 0.5-to-5.5V Symbol Power Tracking

Authors: Jun-Suk Bang, Dongsu Kim, Younghwan Choo, Ik-Hwan Kim, Seungchan Park, Jeongkwang Lee, Sang-Han Lee, Young-Ho Jung, Jae-Young Ko, Sungyoub Jung, Jaeyeol Han, **Woosik Kim**, Ji-Seon Paek, Jongwoo Lee

Skills & Tools

Programming & Scripting: Python, MATLAB, Cadence SKILL, Tcl, Shell Scripting (Bash)

EDA Tools:

- **Analog & Digital Design:** Cadence Virtuoso, Spectre, Maestro, Synopsys PrimeSim, HSPICE
- **Verification & Sign-off:** PRsim, Ansys Totem, Mentor Calibre (DRC, LVS, xRC, PERC)
- **PCB & Layout:** Cadence Allegro, Pollex PCB, Synopsys ICC2, StarRC

Data Analysis & Visualization: Spotfire, Excel (Advanced)

Operating Systems: Linux , Windows

Languages

Korean: Native

Military Service

2016 – 2018: Sergeant, Satellite Communications Specialist, Republic of Korea Air Force

Operated and maintained satellite UHF-band communication systems.

Managed real-time communications under various operational conditions.