



Mun-Jung Cho

Department of Electrical Engineering
Combined M.S./Ph.D. Program
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🌐 PICTUS Lab

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RESEARCH INTERESTS

Power Management ICs

- Inductive Switching DC-DC Converter: Buck, Boost, Buck-Boost, SIMO Converter
- Switched Capacitor Converter
- LDO Regulator: Analog/Digital

LED Drivers

Energy Harvesting Circuits

Integrated Circuit Design: Analog, Digital, Mixed

EDUCATION

• Pohang University of Science and Technology (POSTECH)

Sep. 2023 - Present

Combined M.S./Ph.D. Program in Department of Electrical Engineering

Advisor : Se-Un Shin

• Ulsan National Institute of Science and Technology (UNIST)

Feb. 2019 - Feb. 2023

B.S. in Department of Electronic Engineering

Advisor : Se-Un Shin

PUBLICATIONS

International

- Yeon-Woo Jeong, Seung-Ju Lee, Jong-Hun Kim, **Mun-Jung Cho**, Hwa-Soo Kim, Se-Un Shin, "A Scalable N-Step Equal Split SSHI Piezoelectric Energy Harvesting Circuit Achieving 1170% Power Extraction Improvement and 22nA Quiescent Current with a 1uH-to-10uH Low Q Inductor" 2023 IEEE International Solid-State Circuits Conference (ISSCC), Feb. 2023.

- Seung-Ju Lee, Yeon-Woo Jeong, **Mun-Jung Cho**, Jong-Hun Kim, Hwa-Soo Kim, Jun-Suk Bang, Se-Un Shin, "A 95.3% 5V-to-32V Wide Range 3-Level Current Mode Boost Converter with Fully State-based Phase Selection Achieving Simultaneous High-Speed VCF Balancing and Smooth Transition" 2023 IEEE International Solid-State Circuits Conference (ISSCC), Feb. 2023.

Domestic

- **Mun-Jung Cho**, Se-Un Shin, "Frequency Analysis of Conventional And 3-Level Buck Converter" IDEC Congress Chip Design Contest (CDC), July. 2024.

- **Mun-Jung Cho**, Se-Un Shin, "Frequency Analysis of Conventional And 3-Level Buck Converter" Annual Conference of ISE, Dec. 2023.

- **Mun-Jung Cho**, Seung-Ju Lee, Jong-Hun Kim, Se-Un Shin, "A High-Efficiency Dual Path Buck-Boost Converter with Wide Input Range" 2023 Korean Conference on Semiconductors (KCS), Feb. 2023.

- **Mun-Jung Cho**, Se-Un Shin, "A High-Efficiency Dual Path Buck-Boost Converter with Wide Input Range" Annual Conference of ISE, Dec. 2022.

- **Mun-Jung Cho**, Jong-Hun Kim, Se-Un Shin, "Design of Ladder Charge Pump with Active Gate Driving" Annual Conference of ISE, Dec. 2022.

HONORS

• 2024 Master's Student Research Scholarship by the National Research Foundation

July, 2024 - Present

EXPERIENCE

• Undergraduated Research Intern

July. 2021 - Aug. 2023

Power and Integrated Circuit Technology for Universal Systems (PICTUS)

Advisor : Se-Un Shin

TECHNICAL SKILLS

Simulator

- Cadence Virtuoso : Spectre, Calibre, Finesim
- Synopsis : DC, ICC, StarRC for AutoPnR
- Silvaco : SmartSpice
- Powersim (PSIM)
- SIMetrix/SIMPLIS
- PSpice, LTSpice

PCB Design

- OrCAD
- KiCAD
- PADS Logic