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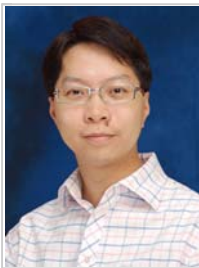
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## Prof LEUNG, Alex Ka Nang 梁加能

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### Research Interests:

Power-management integrated circuits, Analogue integrated circuits

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### Resume of Career

Professor Alex Leung received the B.Eng., M.Phil., and Ph.D. degrees, all in Electrical and Electronic Engineering (now the department is renamed to Department of Electronic and Computer Engineering), from the Hong Kong University of Science and Technology (HKUST). He stayed at HKUST immediately after he got the Ph.D degree in 2002 and became a Visiting Assistant Professor. After his 3-year service to HKUST, he joined Department of Electronic Engineering of the Chinese University of Hong Kong (CUHK) in 2005. He is currently an Associate Professor.

He is a senior member of IEEE, and he was the chairman of the IEEE (Hong Kong) Electron Device/Solid-State Circuit Joint Chapter in 2012. He serves in the editorial board of Active and Passive Electronic Components, Hindawi Publishing Corporation, and he serves as paper reviewer in numerous IEEE & IET journals and international conferences. He involves actively in the organization of several IEEE international conferences.

### Current Research Interests

Power-management integrated circuits, Analogue integrated circuits

### Highlights of Recent Research Achievements

- Developed a capacitive coupling method to improve the load transient response of capacitor-less low-dropout regulators
- Developed a pre-sub-period inductor-current control scheme to deal with unbalanced driving of single-input multiple-output dc-dc converter



### Taught Courses

- Basic Circuit Theory
- Analog Integrated Circuits
- Power Management Technology
- Microprocessors and Computer Systems

### Honors and Awards

- Departmental Exemplary Teaching Awards in 2007-2008, 2009-2010 and 2010-2011
- Faculty Exemplary Teaching Awards in 2007-2008

### External Service in Recent 3 Years

- Chairman, IEEE (Hong Kong) Electron Devices/Solid-State Circuits Joint Chapter, 2012
- Vice-chairman, IEEE (Hong Kong) Electron Devices/Solid-State Circuits Joint Chapter, 2011
- Member of Editorial Board, Active and Passive Electronic Components, Hindawi Publishing Corporation, 2008-present
- Member of organization committee, IEEE International Conference on Electron Devices and Solid-State Circuits, 2005-present
- Member of organization committee, IEEE VLSI SoC, 2011

### Journal Publications

1. P.Y. Or and **K.N. Leung**, 'An Output-Capacitorless Low-Dropout Regulator with Direct Voltage-Spike Detection,' *IEEE Journal of Solid-State Circuits*, Vol. 45, No. 2, pp. 458-466, Feb. 2010.
2. C.F. Chan, K.P. Pun, **K.N. Leung**, J.P. Guo, L.L.K. Leung and C.S. Choy, 'Low-Power Continuously-Calibrated Clock Recovery Circuit for UHF RFID EPC Class-1 Generation-2 Transponders,' *IEEE Journal of Solid-State Circuits*, Vol. 45, No. 3, pp. 587-599, Mar. 2010.
3. **K.N. Leung**, F.K.M. Cheung, M. Ho, H.C. Poon and P.Y. Or, 'A 1.9mW Transient-Enhanced Low-Dropout Regulator with Voltage-Spike Suppression,' *Journal of Low Power Electronics*, Vol. 6, No. 1, pp. 126-132, Apr. 2010.
4. **K.N. Leung**, C.S. Choy, K.P. Pun, L.L.K. Leung, J.P. Guo, Y.S. Ng, C.F. Chan, W.W. Shi, Y. Hong, M. Ho, K.L. Mak and Y.Q. Ai, 'RF Module Design of Passive UHF RFID Tag Implemented in CMOS 90-nm Technology,' *Journal of Low Power Electronics*, Vol. 6, No. 1, pp. 141-149, Apr. 2010.
5. R.P.K. Chan, C.S. Choy, C.F. Chan, K.P. Pun and **K.N. Leung**, 'Analysis of the Behaviors of Phase and Amplitude Mismatch Compensators to Achieve 82.5dB Image Rejection Ratio,' *International Journal of Electronics*, Vol. 97, No. 5, pp. 553-568, May 2010.
6. M.J. Wong, M. Ho and **K.N. Leung**, 'High Slew-Rate Voltage Follower Based on Double-Sided Dynamic Biasing,' *Electronics Letters*, Vol. 46, Issue 12, pp. 824-825, Jun. 2010.
7. A.K.Y. Wong, **K.N. Leung**, K. P. Pun and Y. T. Zhang, 'A 0.5 Hz Highpass-Cutoff Dual-Loop Transimpedance Amplifier for Wearable NIR Sensing Device,' *IEEE Transactions on Circuits and Systems II*, Vol. 57, No. 7, pp. 531-535, Jul. 2010.
8. S. Yeung, J.P. Guo and **K.N. Leung**, '25mA LDO with -63dB PSRR at 30MHz for WiMAX,' *Electronics Letters*, Vol. 46, Issue 15, pp. 1080-1081, Jul. 2010.
9. J.P. Guo and **K.N. Leung**, 'A 6-uW Chip-Area-Efficient Output-Capacitorless LDO in 90-nm CMOS Technology,' *IEEE Journal of Solid-State Circuits*, Vol. 45, No. 9, pp. 1896-1905, Sept. 2010.
10. **K.N. Leung** and Y.S. Ng, 'A CMOS Low Dropout Regulator with a Momentarily Current-Boosting Voltage Buffer,' *IEEE Transactions on Circuits and Systems I*, Vol. 57, No. 9, pp. 2312-2319, Sept. 2010.
11. P.Y. Or and **K.N. Leung**, 'A Fast-Transient Low-Dropout Regulator with Load-Tracking Impedance Reduction and Loop-Gain Boosting,' *IEEE Transactions on Circuits and Systems II*, Vol. 57, No. 10, pp. 757-761, Oct. 2010.
12. M. Ho, **K.N. Leung** and K.L. Mak, 'A Low-Power Fast-Transient 90-nm Low-Dropout Regulator with Multiple Small-Gain Stages,' *IEEE Journal of Solid-State Circuits*, Vol. 45, No. 11, pp. 2466-2475, Nov. 2010.
13. **K.N. Leung**, Y.Y. Mai and P.K.T. Mok, 'A Chip-Area Efficient Voltage Regulator for VLSI Systems,' *IEEE Transactions on VLSI Systems*, Vol. 18, No. 12, pp. 1757-1762, Dec. 2010.
14. **K.N. Leung**, Y.K. Sun, L.L.K. Leung and P.Y. Or, 'A Gain-Optimizing Regulated Charge Pump,' *International Journal of Electronics*, Vol. 98, No. 2, pp. 197-205, Feb. 2011.
15. M. Ho and **K.N. Leung**, 'Dynamic Bias-Current Boosting Technique for Ultra-Low-Power Low-Dropout Regulator in Biomedical Applications,' *IEEE Transactions on Circuits and Systems II*, Vol. 58, No. 3, pp. 174-178, Mar. 2011.
16. **K.N. Leung**, Y.S. Ng and H. Chen, 'A Fully Integrated CMOS Direct-Conversion Transmitter Front-End for WiMAX,' *International Journal of Electronics*, Vol. 99, No. 2, pp. 255-266, Feb. 2012.
17. J.B. Jia and **K.N. Leung**, 'Improved Active-Diode Circuit Used in Voltage Doubler,' *International Journal of Circuit Theory and Applications*, Vol. 40, Issue 2, pp. 165-173, Feb. 2012.
18. J.P. Guo and **K.N. Leung**, 'A CMOS Voltage Regulator for Passive RFID Tag ICs,' *International Journal of Circuit Theory and Applications*, Vol. 40, Issue 4, pp. 329-340, Apr. 2012.
19. J.B. Jia and **K.N. Leung**, 'A Digital-Control Single-Inductor Triple-Output DC-DC Converter with Pre-Sub-Period Inductor-Current Control,' *IEEE Transactions on Power Electronics*, Vol. 27, No. 4, pp. 2028-2042, Apr. 2012.
20. Y.Q. Zheng, H. Chen and **K.N. Leung**, 'A Fast-Response Pseudo-PWM Buck Converter with PLL-Based Hysteresis Control,' *IEEE Transactions on VLSI Systems*, Vol. 20, No. 7, pp. 1167-1174, Jul. 2012.
21. K.W. Li, **K.N. Leung** and L.L.K. Leung, 'Sub-mW LC Dual-Input Injection-Locked Oscillator for Autonomous WBSNs,' *IEEE Transactions on VLSI Systems*, Vol. 21, No. 3, pp. 546-553, Mar. 2013.
22. T. W. Mui, M. Ho, K. H. Mak, J. P. Guo, H. Chen and **K. N. Leung**, 'An Area-Efficient 96.5%-Peak-Efficiency Cross-Coupled Voltage Doubler With Minimum Supply of 0.8V,' *IEEE Transactions on Circuits and Systems II*, Vol. 61, No. 9, pp. 656-660, Sep. 2014.
23. K. H. Mak and **K. N. Leung**, 'A Signal- and Transient-Current Boosting Amplifier for Large Capacitive Load Applications,' *IEEE Transactions on Circuits and Systems I*, Vol. 61, No. 10, pp. 2777-2785, Oct. 2014.



## Conference Publications

1. W.W. Shi, C.S. Choy, C.F. Chan, **K.N. Leung** and K.P. Pun, 'A 0.4V Low Power Baseband Processor for UHF Passive RFID Tags,' *IEEE International NEWCAS Conference*, Montreal, Canada, pp. 65-68, Jun. 2010.
2. W.W. Shi, C.S. Choy, C.F. Chan, **K.N. Leung** and K.P. Pun, 'A 90nm RFID Tag's Baseband Processor with Novel PIE Decoder and Uplink Clock Generator,' *IEEE International Midwest Symposium on Circuits and Systems*, Seattle, WA, USA, pp. 644-647, Aug. 2010.
3. J.P. Guo, W.W. Shi, **K.N. Leung** and C.S. Choy, 'Power-On-Reset Circuit with Power-Off Auto-Discharging Path for Passive RFID Tag ICs,' *IEEE International Midwest Symposium on Circuits and Systems*, Seattle, WA, USA, pp. 21-24, Aug. 2010.
4. J.B. Jia and **K.N. Leung**, 'Optimization of Output Voltage and Stage Number of UHF RFID Power Rectifier,' *International Conference on Solid-State and Integrated-Circuit Technology*, Shanghai, China, pp. 412-414, Nov. 2010.
5. K.Y. Kwong and **K.N. Leung**, 'Slew-Rate Enhancement Circuit of CMOS Current-Mirror Amplifier by Edge-Detecting Technique,' *IEEE International Conference on Electron Devices and Solid-State Circuits*, Hong Kong, Dec. 2010.
6. H. Chen and **K.N. Leung**, 'A Fast-Transient LDO Based on Buffered Flipped Voltage Follower,' *IEEE International Conference on Electron Devices and Solid-State Circuits*, Hong Kong, Dec. 2010.
7. **K.N. Leung**, M. Ho, J.P. Guo and P.Y. Or, 'Development of Energy-Efficient Fast-Transient CMOS Low-Dropout Regulators for SoC Applications,' *IEEE Symposium on Circuits and Systems*, Rio de Janeiro, Brazil, presented in Special Session: Emerging Energy & Power Integrated Circuits, pp. 305-308, May 2011.
8. K.W. Li and **K.N. Leung**, 'A Low-Power MICS Fractional-N Frequency Synthesizer for Implantable Biomedical Systems,' *IEEE Asia Pacific Conference on Circuits and Systems*, Kaohsiung, Taiwan, pp. 168-171, Dec. 2012.
9. S. Bu and **K.N. Leung**, 'A 116-dB CMOS Op Amp with Repetitive Gain Boosting and Subthreshold Operation,' *IEEE International Conference on Electron Devices and Solid-State Circuits*, Hong Kong, Jun. 2013.
10. J.P. Guo and **K.N. Leung**, 'A 25mA CMOS LDO with -85dB PSRR at 2.5MHz,' *IEEE Asian Solid-State Circuits Conference*, Singapore, pp. 381-384, Nov. 2013.

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