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## PERSONAL DATA

Date & Place of Birth: July 31, 1958, Daegu Korea

## EDUCATION

June 2012 74<sup>th</sup> ACAD, Graduate School of Public Administration, Seoul Nat'l University  
Aug. 1994 Ph.D. in Electronics & Electrical Engineering from Korea Advanced Institute of Science and Technology (KAIST), Daejeon, Korea  
"Modeling of Floating Body Silicon-On-Insulator n Channel MOSFET," *Advisor: Choong-Ki Kim*  
Feb. 1983 M.S. in Electronics Engineering, from Kyungpook National University, Daegu, Korea  
"The Effects on TCE for Growth of Thermal Silicon Dioxide," *Advisor: Byung-Ki Shon*  
Feb. 1981 B.S. in Electronics Engineering, from Kyungpook National University, Daegu, Korea

## WORK EXPERIENCE

*Electronics & Telecommunication Research Institute (ETRI)*

2020 ~ 2023 Research Fellow  
1983 ~ 2020 Principal Research Engineer  
Special Fellow of Engineering  
Senior Vice President of SW-SoC Convergence Lab.  
Vice President of SW-SoC Convergence Division  
Director of Microwave Technology Group

Team Manager of Digital RF SoC Design Team  
 Team Manager of RF/Analog CMOS Circuit Design Team  
 Team Manager of Silicon RF Devices Development Team  
 Project Leader of CMOS Standard Cell Library Development  
 Senior Member of Nat'l Project of "4M/16M/64M DRAM Development"  
 Member of Semiconductor Process Integration Team: 32K/64K ROM Production

#### *Universities*

2023 ~ Present     Invited Professor: Graduate School of AI Semiconductor, Dep. of EE, KAIST  
 2021 ~ 2023     Invited Professor: Dep. of EE, Chungnam Nat'l University  
                       - *Spring Class: Neuromorphic Semiconductor Devices & Circuits*  
                       - *Fall Class: Semiconductor Technologies & Industries*  
 2010 ~ 2015     Adjunct Professor: University of Science & Technology (UST)  
                       - Division: Mobile Communication & Digital Broadcasting  
 2005 ~ 2005     Adjunct Professor: Dep of EE, Jeonbuk Nat'l University  
 2002 ~ 2003     Visiting Scholar: University of Florida, Gainesville FL, USA  
 1998 ~ 2005     Lecture on *RF CMOS Circuit & System Design*: IDEC, KAIST

#### *Government & Public Institutions*

2022 ~ Present     PIM Design Adviser, PIM AI Semiconductor Foundation, MIST & MOTIE  
 2020 ~ Present     NPU Design Adviser, Next Generation Intelligent Semiconductor Foundation, MIST & MOTIE  
 2020 ~ 2022     Director of Planning Committee: PIM Preliminary Feasibility Analysis, MIST & MOTIE  
 2021 ~ 2023     Head of Research's Right Protection Committee (ICT Div.), MIST  
 2015 ~ Present     Board of Directors of CISS (Center of Integrated Smart Sensors, MSIP)  
 2012 ~ 2015     Special Committee of Several National Technology Policy Planning  
 2006 ~ 2015     National Project Planning Committee of KEIT  
 2005 ~ 2010     Steering Committee of RERC (*Radio Education and Research Center*) of KAIST  
 2000 ~ 2005     National Project Planning Committee of IITA  
 2000 ~ 2015     Evaluation Committee of NRF  
 1999 ~ 2004     Director of "RF CMOS Research National Lab" of MOST

#### *Society Organizer*

2018 ~ Present     Co-Founder & Chairman of AI Semiconductor Forum  
 2013 / 2014     General Chairman of "Conference of Korean Embedded Engineering"  
 2007 ~ 2013     Founder & Co-Chairman of "Microwave Components for Military Applications" Society  
 2001 ~ 2013     Founder & Chairman of "RF Integrated Circuit Technology" Society  
                       Participant Societies: IEIE, KIEE, KIMST (*Korean Institute of Military Science & Technology*)

#### *Korean Engineering Societies*

2019 ~ 2019     President of Institute of Semiconductor Engineering (ISE)  
 2007 ~ 2018     Vice President & Board of Directors of IEIE (*Institute of Electronics & Information Engineers*)  
 2012 ~ 2018     Vice President of IEMEK (*Institute of Embedded Engineering of Korea*)  
 2010 ~ 2020     Board of Director of KIEES (*Korean Institute of Electromagnetic Engineering & Science*)  
 2010 ~ 2013     Chairman of "Standardization" Committee of IEIE  
 2007 ~ 2019     Editor of JSTS (*Journal of Semiconductor Technology & Science*)

#### *Int'l Engineering Societies*

1996 ~ Present     Reviewer of IEEE Societies: EDS, MTTS, and SSCS Society  
 2001 ~ Present     Senior Member of IEEE  
 2006 ~ 2010     TPC Member of ASSCC, ISOCC, and VLSI-DAT  
 2007 ~ 2012     Int'l Steering Committee Member of GSMM

#### *Industrial Societies*

2023 ~ Present     Chairman of AI Semiconductor Forum  
 2012 ~ 2014     Chairman of Embedded SW Technology Forum  
 2012 ~ 2013     Vice Chairman of System-Semiconductor Society Forum  
 2012 ~ 2015     Steering Committee of "Korean Software Award (KSWA)": MSIP, NIPA, KAIT, EE Times  
 2008 ~ 2010     Steering Committee of Academy-Industry Research Corp. of Seoul Nat'l Univ.

## HONORS

- Patent Medal of ETRI, 1990 & 1992
- ETRI Best Team Leadership Award, 2002.4.
- ETRI Best Patent Award, 2002.9.
- Grand Prize from IEEK, Oct. 1999
- Best Paper Award from IEEE SoC Design Conf., Oct. 2002
- Achievement Award from IEEK, Oct. 2003
- Achievement Award from IEEK, Oct. 2006
- Nat'l 100 Distinguished Project Award Among '03~'05 National Projects
- Nat'l Award from Ministry of Knowledge Economy (MKE), Oct. 2009
- Selected '11 ETRI World First & Distinguished Project, Dec. 2011
- 'Daewon Kang' Award (Circuit Design), Korea Semiconductor Society, Feb. 2020
- Order of Science & Technology Merit, Rep. of Korea Government, April, 2021
- Contribution to Research's Right Protection, MIST, April 2022

## RESEARCH ACTIVITIES SUMMARY

- *Engineering Staff of Projects:*
  - 1983~1986: Development of Silicon Device & Process Technology (32K, 64K ROM Production), *Role: Semiconductor Process & Device Development, Financial Resource: MOST*
  - 1987~1991: 4M/16/64M DRAM Development, *Role: TEG Design, Evaluation, Memory Cell Design & Technology Management, Financial Resource: MOST (National Mega-Project: LG, SAMSUNG, HYUNDAI, & ETRI Consortium)*
  - 1992~1994: Next Generation Silicon Technology Development, *Role: SOI CMOS Device Design & Modeling, Financial Resource: MOST*
  - 1994~1995: Development of Standard Cell Library, *Role: Design & Implementation of STD Library, Financial Resource: MOST*
  - 2016 ~ 2019: Brain Inspired Neuromorphic Perception and Learning Processor, *Role: Analysis of Neural Basis Vision Perception, Financial Resource: MIST*
  - 2017 ~ 2018: Neuron & Neural Network Model, *Role: Analysis of Cerebellum Neural Network, Financial Resource: NST*
  - 2017 ~ 2020: Intelligence Many-Core Processor and SW based on Low-Power Hypervisor, *Role: Neural Associative Memory Architecture Analysis, Financial Resource: MIST*
  - 2018 ~ 2019: Development of Neuromorphic Hardware using Ultra-thin Structure Based High-performance Memristor Device, *Role: AI Methods for NVM Devices Modelling, Financial Resource: NST*
  - 2020~2023: Nat'l Lab of AI Semiconductor, *Role: R&BD Planning for Next Generation AI Chips & Systems, Financial Resource: MIST*
- *Director of Projects:*
  - 1996.1. ~ 1997.12: A Study of Device Technology for Silicon RF Integrated Circuit, *Financial Resource: MIC*
  - 1997.1. ~ 1998.12: The Development of Low Power and High Speed Bipolar Device Technology, , *Financial Resource: MIC*
  - 1998.1. ~ 2000.12: Development of 2GHz RF CMOS Integrated Circuits Technology, *Financial Resource: MIC*
  - 1999.1~1999.12: The Development of RF CMOS ICs for the Digital TV Tuner, *Financial Resource: MIC*
  - 1999.7~2002.6: The Development of Low Power and High-Speed Frequency Synthesizer (Direct Digital Frequency Synthesizer), *Financial Resource: DAPA*
  - 1999.9~2004.8: Research of the RF CMOS technologies for the next generation mobile transceiver ICs *Financial Resource: MOST (National Research Lab.: NRL Project)*,
  - 2000.5~2001.7: Development of RF CMOS Chip Set for PCS Handset, *Financial Resource: Hyundai-Electronics*
  - 2001.3~2003.2: Development of 1~5 GHz Multi-band, Direct-Conversion Single-chip Technology, *Financial Resource: MIC*
  - 2003.1~2007.12: Development of SoP(System on Package) for 60 GHz Pico cell Communication, *Financial Resource: MIC*
  - 2004.3~2007.2: Development of 10Gbps Mixed Mode SoC Platform., *Financial Resource: MIC*
  - 2008.3~2012.2: Development of Advanced Digital RF Technology for Next Generation Wireless Convergence Terminals, *Financial Resource: MKE*
  - 2010.6~2014.3: Development of Car Safety System based on High Integrated CMOS Multi-Radar Sensor, *Financial Resource: MKE*

- 2009.6~2013.12: Bio-Metric Radar Sensor Chip & Signal Processing for Military Surveillance Patrol System, *Financial Resource: DAPA*
- 2011.6~2014.6: Development of 2/3/4 Generation RFIC & PAM, *Financial Resource: MKE*
- 2012.9~2013.12: Reinforcement Project for SW-SoC Open R&BD with Universities & Enterprises, *Financial Resource: ETRI*

## TECHNOLOGY COMMERCIALIZATION

- *Technology Transfer to Industries*
  - EDDS (ETRI Data Distributed System) Application: April 2014. (As of Project Staff)
  - Embedded Low Power CPU IP: May, 2013 (As of Project Staff)
  - 77GHz LTCC Array Antenna: Oct. 2013
  - 60 GHz-band Distance Measurement System: May, 2012
  - Digital RF Tx IP: Dec. 2011
  - MMIC Switch for 77GHz Radar System: Dec. 2010
  - DT-RF Behavior Model for Mobile TV Application: May. 2010
  - DFE Hardware Model for DVB-H Applications: Nov. 2009
  - Narrow-Band ADPLL: Dec. 2008
  - The Structure and Fabrication of PHEMT Amplifier: Oct. 2008
  - 10Gbps CMOS CDR/DeMUX Design Technology: Feb. 2008
  - 1~2GHz RF CMOS Technology: July 2000
  - Silicon Bipolar Device for Ultra Low Power & High-Speed Applications: Jan. 1999
- *Patent Licensing*
  - Integrated Inductor for RFIC Applications: Dec. 2011.
  - Several Additional Patents Licensing: (Jan. 2000~Present)
- *Industry Funded Research & Business Development:*
  - RFCMOS Chip Set for PCS Hand Set, 2000.5. ~ 2001.7.
  - CMOS RF Front-End IC Design of L-Band/Band-III for DAB Applications, 02.9. ~ 02.12.
  - SerDES SoC for High-Speed Video Data Transfer, 10.7~11.10.

## CARRIER HIGHLIGHT

- The world first development of RF CMOS Rx/Tx chip set for CDMA cellular phones with a 900 MHz frequency range: August 1999
  - The world first success of RF CMOS Rx/Tx chip set for CDMA PCS phones with a 1.8GHz frequency range: May 2001
- ※ *References: Newspapers and TV Broadcasting. (1999 & 2001)*

## PLENARY & INVITED TALKS

### *International Conference*

- New Waves of Semiconductor for Future AI Pervasive Era, 2022 Asian Solid State Circuits Conference (A-SSCC), Nov. 7-9, 2022, *Taipei Taiwan*
- Reliable Hand-Top Many-Core SW-SoC Platform, 2013 Asian Solid State Circuits Conference (A-SSCC), Nov. 11-13, 2013, *Singapore*.
- SW-SoC Convergence Platform for Future ICT Systems and Services The 5<sup>th</sup> International Symposium on IT Convergence Engineering, July 11~ 12, 2013, POSTECH, *Pohang, Korea*.
- Advanced Digital RF MIMO Transceiver for Next Generation Mobile Communication, International Symposium on Advanced RF IC Design, Nov. 15, 2012, Univ. of Tokyo, *Tokyo, Japan*.
- Mission Critical Embedded Software Technology: Dependable OS and CPS, International Workshop on Cyber-Physical Systems, IWCPs, 23 August, 2012, DGIST, *Daegu, Korea*.
- Design Activities in ETRI for Wideband Digital RF Transceiver, TxACE Analog Symposium, Oct. 24, 2011, *Dallas Texas, USA*.
- Dual-band RF CMOS Direct Conversion Transceiver with Sub-harmonically Mixing Technique, Int'l Sym. on Advanced Si-RF LSI Circuits and Devices, Nov. 13, 2004, *Tokyo Japan*,
- Impact of RF CMOS Technologies for the Next Generation Mobile Handsets and Terminals, The 3rd China CDMA International Summit '99, Nov. 15-17, 1999, *Beijing, China*.

#### *Domestic Conference*

- AI Semiconductor R&D Status and Development Direction, Summer Conference of ISE, July 18, 2023, *Kyungju, Korea*
- Development Status of NPU & PIM Semiconductor and Their Feature Direction, 29<sup>th</sup> Korean Conf. on Semiconductors, Jan.25, 2022, *Kangwon-Do, Korea*
- A Brief Suggestion of How to Associate Newly Developed AI Devices to AI Circuits Design, Conference of KIEEME, Nov. 9, 2021, *Jeju, Korea*
- A Review and Analysis of Recent SW Convergence Trend, June 28, 2013, NIPA, Seoul, Korea
- Industrial Strategy for System on a Chip (SoC) Technology of Korea, System-Semiconductor Forum, KSIA, July 12, 2012, *Seoul Korea*
- 60GHz RoF Transceiver, Microwave & Wave-Propagation Conference, May 18, 2007, Seoul, Korea.
- RF CMOS Technology for the RF System on a Chip, 8<sup>th</sup> Korea Semiconductor Conference, Feb. 15~16, 2001, *Seoul, Korea*.
- Special Lecture: RF CMOS Integrated Circuit Technologies, ASIC Design Workshop, Oct.19-20, 2000, *Chonan, Korea*
- Silicon RF Technologies for the Multi-band Single Chip RF Transceiver, Telecom & Satellite/IMT-2000 Conference, Sep. 19-20, 2000, *Seoul, Korea*.
- RF CMOS Integrated Circuit Technologies, Today and Future, IEEK Conference, June 26, 1999, *Mokpo, Korea*
- RF CMOS Technology for RF IC Applications, SEMICON Korea Technical Symposium 98, Jan. 22, 1998, *Seoul, Korea*.
- RF CMOS Integrated Circuit Technologies, Expocomm Wireless Korea '97, May 13, 1997, *Seoul, Korea*
- ※ *Several Additional Invited Talks to the Industries, Universities, and various Societies.*

#### **JOURNAL PAPER (SCI & SCIE)**

[2013]

- Sangjin Byun, Chung Hwan Son, Jongil Hwang, Byung-Hun Min, Mun-Yang Park, and Hyun-Kyu Yu, 1~5.6Gb/s CMOS Clock and Data Recovery IC with a Static Phase Offset Compensated Linear Phase Detector, *IET Circuits Devices Syst.*, vol. 7, Issue 3, pp. 159-168, 2013.
- S.Shim, H.Y.Lee, J.-H. Choi, Hyun-Kyu Yu, and S.Hong,  $\Delta\Sigma$  digital-RF transmitter with reduced LO leakage using segmented butterfly shufflers, *Electronics Letters* vol.49. No.1, pp.16-18, 3<sup>rd</sup> Jan. 2013.

[2012]

- Ja-Yol Lee, Mi-Jeong Park, Cheon Soo Kim, and Hyun-Kyu Yu, Digital Compensation for Large Phase-Error Glitches in Digital PLL, *Electronics Letters* vol.48. No.19, pp.1184-1185, 13<sup>th</sup> Sep. 2012.
- Ja-Yol Lee, Mi-Jeong Park, Byung-Hun Min, Seongdo Kim, Mun-Yang Park, and Hyun-Kyu Yu, A 4GHz All Digital PLL With Low-Power TDC and Phase-Error Compensation, *IEEE Trans. on Circuits & Systems* vol. 59. No.8, pp.1706-1719, August, 2012.

[2011]

- Seongdo Kim, Janghong Choi, Joohyun Lee, Bontae Koo, Cheonsoo Kim, Nakwoong Eum, Hyunkyu Yu, and Heebum Jung, A Subthreshold CMOS RF Front-End Design for Low-Power Band-III T-DMB/DAB receivers, *ETRI Journal*, vol. 33, no. 6, pp. 969-972, Dec. 2011.
- M.J.Park, J.Y.Lee, H.H.Boo, B.H.Mhin, S.D.Kim, M.Y.Park, C.S.Lee, and Hyun-Kyu Yu, Low Power Digital PLL based TDC Using Low Rate Clocks, *Electronics Letters*, vol.47, No.14, 7<sup>th</sup> July, 2011.

[2010]

- Piljae Park, Chen L, Le Wang, Hyun-Kyu Yu, C.P.Yue, A Fully Integrated Transmitter with Embedded Antenna for On-Wafer Wireless Testing, *IEEE Trans. on Microwave Theory & Techniques*, vol.58. No.5, pp. 1456-1463, May, 2010.

[2009]

- Byung-Hun Min, Seok-Bong Hyun, and Hyun-Kyu Yu, Low Voltage CMOS LC VCO with Switched Self-Biasing, *ETRI Journal*, vol. 31, no. 6, pp. 755-764, Dec. 2009.

[2008]

- Jeha Kim, Yong-Duck Chung, Kwang-Seong Choi, Dong-Soo Shin, Jae-Shik Sim, and Hyun-Kyu Yu, 60-GHz System-on-Packaging Transmitter for Radio-Over-Fiber Applications, *IEEE Journal of Lightwave Technology*, Vol. 26, No.15, pp. 2379-2387, August, 2008. (Invited)
- Ja-Yol Lee, Sang-Heung Lee, Haecheon Kim, and Hyun-Kyu Yu, A 23GHz Capacitive-Degeneration LC VCO with a Form of -199dBc/Hz, *Microwave & Optical Technology Letters*, Vol.50, No.6, pp.1688-1690, June 2008.
- Ja-Yol Lee, Sang-Heung Lee, Haecheon Kim, and Hyun-Kyu Yu, A 28.5–32-GHz Fast Settling Multichannel PLL Synthesizer for 60-GHz WPAN Radio, *IEEE Trans. on Microwave Theory & Techniques*, vol.56. No.5,

pp.1234-1246, May, 2008.

- Ja-Yol Lee, Haechon Kim, Sang-Heung Lee, and Hyun-Kyu Yu, A 48 GHz 196 dB-FOM LC VCO With Double Cap-Degeneration Negative-Resistance Cell, *IEEE Microwave and Wireless Components Letters*, Vol. 18, No.5, pp. 341-343, May, 2008.
- Byung-Guk Kim, Lee-Sup Kim, Sangjin Byun, and Hyun-Kyu Yu, A 20 Gb/s 1:4 DEMUX Without Inductors and Low-Power Divide-by-2 Circuit in 0.13 $\mu$ m CMOS Technology, *IEEE Journal of Solid State Circuit*, Vol. 43, No.2, pp. 541-549, Feb., 2008.
- Kwang-Seong Choi, Yong-Duck Chung, Jae-Sik Sim, Jong-Tae Moon, Hyun-Kyu Yu, Hyo-Hoon Park, and, Jeha Kim, Improving 60-GHz band radio-frequency with radio-over-fiber link characteristics of optical transmitter system-on-packaging, *Journal of Optical. Engineering* 47(2), pp. 025005-1~ 025005-6, Feb. 2008.
- Kwang-Seong Choi, Yong-Duck Chung, Dong-Suk Jun, Jong-Tae Moon, Jeha Kim, Hyun-Kyu Yu, and Hyo-Hoon Park, and, System-on-Packaging with Electroabsorption Modulator for a 60-GHz Band Radio-Over-Fiber Link, *IEEE Trans. on Advanced Packaging*, Vol. 31, No.1, pp. 163-169, Feb., 2008.
- Ja-Yol Lee, Sang-Heung Lee, Haechon Kim, and Hyun-Kyu Yu, Millimeter-wave VCO with Enhanced  $f_{trans}$ , *Electronics Letters*, vol.44, No.1, 3<sup>rd</sup> Jan., 2008.

[2007]

- Yong-Duck Chung, Kwang-Seong Choi, Jae-Sik Sim, Dong-Suk Jun, Hyun-Kyu Yu, and Jeha Kim, Development of 60-GHz analog optic transmitter module with radio-frequency gain for radio-over-fiber link, *Journal of Optical. Engineering* 46(11), pp. 115004-1-11504-4, Nov. 2007.
- Yong-Duck Chung, Kwang-Seong Choi, Jae-Sik Sim, D, Hyun-Kyu Yu, and Jeha Kim, A 60GHz Band Analog Optical System-On-Package Transmitter for Fiber-Radio Communication, *IEEE J. Light Tech.* Vol. 25, No.11, pp.3407-3412, Nov. 2007.

[2006]

- Jong-Won Lim, Ho-Kyun Ahn, Hong-Gu Ji, Woo-Jin Chang, Jae-Kyoung Mun, Haechon Kim, and Hyun-Kyu Yu, Fabrication and Characteristics of 0.12 $\mu$ m Single and Double-Recessed Gate AlGaAs/InGaAs/GaAs PHEMTs Using a SiNx Pre-Passivation Layer, *Journal of Korean Physical Society*, pp. S774-S779, Dec. 2006.
- Sangjin Byun, Jyung-Chan Lee, Jae-Hoon Shim, Kwangjun Kim, and Hyun-Kyu Yu, A 10-Gb/s CMOS CDR and DEMUX IC With a Quarter-Rate Linear Phase Detector, *IEEE Journal of Solid State Circuit*, Vol. 41, No.11, pp. 2566-2576, Nov., 2006.

[2004]

- Byung-Do Yang, Choi, J.-H, Seon-Ho Han, Lee-Sup Kim, and Hyun-Kyu Yu, An 800MHz Low Power Direct Digital Frequency Synthesizer with an On-Chip D/A Converter, *IEEE Journal of Solid State Circuit*, Vol. 39, No.5, pp. 761-774, May, 2004.
- Kwang-Jin Koh, Mun-Yang Park, Cheon-Soo Kim, and Hyun-Kyu Yu, Sub-harmonically Pumped CMOS Frequency Conversion (Up & Down) Circuits for 2GHz WCDMA Direct Conversion Transceiver, *IEEE Journal of Solid State Circuit*, Vol. 39, No.6, pp.871-884, June, 2004.
- Piljae Park, Cheon Soo Kim, Mun Yang Park, Sung Do Kim, and Hyun-Kyu Yu, Variable Inductance Multilayer Inductor with MOSFET Switch Control, *IEEE Electronic Device Letters*. Vol.25, No.3, pp.144-146, March 2004.

[2003]

- Seon-Ho Han, Yong-Sik Youn, Cheon-Soo Kim, Hyun-Kyu Yu, and Mun-Yang Park, Prescaler Using Complementary Clocking Dynamic Flip-Flop, *IEE 1st Vol.39, No.9, May, 2003*.
- Cheon-Soo Kim, Sung-Do Kim, Mun-Yang Park, and Hyun-Kyu Yu, Trenched Sinked LDMOSFET (TS-LDMOSFET) Structure for 2GHz Power Amplifier Applications, *ETRI Journal*, vol. 25 no. 3, pp. 195-202, June 2003.

[2002]

- Seung-Chul Lee, Min-Hyung Cho, and Hyun-Kyu Yu, 10bit 200MS/s CMOS D/A Converter Employing High Speed Limiter, *IEE 7th, Vol.38, No.23, Nov. 2002*.

[2001]

- Seonghearn Lee, Cheon Soo Kim, and Hyun-Kyu Yu, A Small-Signal RF Model and Its Parameter Extraction for Substrate Effects in RF MOSFETs," *IEEE Trans. Electron Devices*, vol.48, no.7, pp.1374-1379, July 2001.
- Seonghearn Lee, and Hyun-Kyu Yu, A New Technique to Extract Channel Mobility in Submicron MOSFETs Using Inversion Charge Slope Obtained from Measured S-Parameters," *IEEE Transactions on Electron Devices*, vol.48, no.4, pp.784-788, April 2001.
- Seonghearn Lee, and Hyun-Kyu Yu, Determining non-quasi-static small-signal equivalent circuit of a RF silicon MOSFET," *Solid-State Electronics*, vol.45, no.2, pp.359-364, Feb. 2001.

[2000]

- Cheon Soo Kim, Jung-Woo Park, Hyun-Kyu Yu, and Cho, H., Gate Layout and Bonding Pad Structure of a RF n-MOSFET for Low Noise Performance, *IEEE Electron Device Lett.*, vol.21, No.12, pp. 607-609, Dec. 2000.
- Seonghearn Lee, Cheon Soo Kim, and Hyun-Kyu Yu, Improved BSIM3v3 Model for RF MOSFET IC Simulation, *Electronics Letters*, vol.36 No.21, pp.1818-1819, 12th Oct. 2000.
- Jong-Tae Park, Byung-Jin Lee, Dong-Wook Kim, Chong-Gun Yu, and Hyun-Kyu Yu, RF Performance

- Degradation in nMOS Transistors due to Hot Carrier Effects, *IEEE Trans. on Electron Devices*, vol.47. No.5, pp.1068-1072, May 2000.
- Seonghearn Lee, and Hyun-Kyu Yu, A Semianalytical Parameter Extraction of a SPICE BSIM3v3 for RF MOSFET's Using S-Parameters, *IEEE Trans. on Microwave Theory & Techniques*, vol.48. No.3, pp.412-416, March, 2000.
- [1999]
- Min Park, Chung-Hwan Kim, Cheon Soo Kim, Mun-Yang Park, Sung-Do Kim, Young-Sik Youn, and Hyun-Kyu Yu, Frequency-Dependent Series Resistance of Monolithic Spiral Inductors, *IEEE Microwave and Guided Wave Letters*, vol.9 No.12, pp.514-516, Dec. 1999.
  - Min Park, Chung-Hwan Kim, Cheon Soo Kim, and Hyun-Kyu Yu, Frequency-Dependent Resistance of Planar Spiral Inductors, *J. Korean Physical Society, Supplementary Issue*, vol. 35, pp. S851-S855, Dec. 1999.
  - Cheon-Soo Kim, Min Park, Chung-Hwan Kim, Hyun-Kyu Yu, and Hanjin Cho, Thick Metal CMOS Technology on High Resistivity Substrate and Its Applications to Monolithic L-Band CMOS LNAs, *ETRI Journal*, pp. 1-8, Dec., 1999.
  - Seonghearn Lee, and Hyun-Kyu Yu, Accurate High-Frequency Equivalent Circuit Model of Silicon MOSFETs, *Electronics Letters*, vol.35 No.17, pp. 1406-1407, 19th August, 1999.
  - Min-Gun Kim, Chung-Hwan Kim, Hyun-Kyu Yu, and Jaejin Lee, An FET-Level Linearization Method Using a Predistortion Branch FET, *IEEE Microwave and Guided Wave Letters*, vol.9 No.12, pp.233-235, June 1999.
  - Hyun-Kyu Yu, RF CMOS Technologies for the Future Portable Wireless Communications, *Technical report of IEICE, Japan, ED99-103, SDM99-77, ICD99-85, pp.137-144, July 1999. (Invited)*
  - J.T.Hwang, S.H.Woo, M.W.Hwang, J.Y.Ryu, Hyun-Kyu Yu, and G.H.Cho, A 0.8-um CMOS 1.33 to 2-GHz Wide Range Tunable Two-Stage Current Steering L-C Oscillator, *Technical report of IEICE, Japan, ED99-110, SDM99-84, ICD99-92, pp.183-188, July 1999.*
  - C.H.Kim, C.S.Kim, M.Park, M.Y.Park, S.D.Kim, Y.S.Youn, and Hyun-Kyu Yu, Suppression of Third-Order Intermodulation Distortion Signals by Novel Methods, *Technical report of IEICE, Japan, ED99-104, SDM99-78, ICD99-86, pp.145-150, July 1999.*
  - C.S.Kim, M.Park, S.D.Kim, M.Y.Park, Y.S.Youn, Hyun-Kyu Yu, and H.Cho, Monolithic L-band CMOS LNAs Performance With the Ground Patterened Spiral Inductors, *Technical report of IEICE, Japan, ED99-109, SDM99-83, ICD99-91, pp.177-181, July 1999.*
  - S.Lee and Hyun-Kyu Yu, Accurate Extraction of Bias-Dependent MOSFET Parameters for RF Model Applications, *Technical report of IEICE, Japan, ED99-106, SDM99-80, ICD99-88, pp.157-162, July 1999.*
  - M.W.Hwang, J.T.Hwang, S.H.Woo, J.Y.Ryoo, Hyun-Kyu Yu, and G.H.Cho, A Novel Fully Integrated LC Oscillator Using Miller Tuning Method, *Technical report of IEICE, Japan, ED99-111, SDM99-85, ICD99-93, pp.189-193, July 1999.*
  - Chung-Hwan Kim, Cheon Soo Kim, Hyun-Kyu Yu, Kee Soo Nam, Unique Extraction of Substrate Parameters of Common-Source MOSFETs, *IEEE Microwave and Guided Wave Letters*, vol.9, No.3, pp.108-110, March 1999.
  - Keewook Jung, Changsik Yoo, Hyun-Kyu Yu, Wonchul Song, and Wonchan Kim, A Process and Environment Tolerant 3V, 2GHz VCO with 0.8um CMOS Technology, *IEEE Trans. on Consumer Electronics*, vol.45, No.1, pp.171-175, Feb. 1999.
- [1998]
- Jong-Tae Park, Byung-Jin Lee, Dong-Wook Kim, Chong-Gun Yu, and Hyun-Kyu Yu, Hot Carrier Induced Device Degradation in RF-nMOSFET's Transistors, *Microelectronics Reliability*, vol.38, pp.1081-1084, 1998.
  - Thick-Metal High Q Microwave Integrated Inductors for 2GHz Si RF IC Applications, *J. Korean Physical Society, Supplementary Issue*, vol. 33, pp. S183-S186, Nov. 1998.
  - High-Quality Conformal Silicon Oxide Films Prepared by Multi-Step Sputtering PECVD and Chemical Mechanical Polishing, *Journal of Electronic Materials*, vol.27, No.11, pp. 1262-1267, Nov. 1998.
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