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4-6 June 2017**



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- RSUIF Interactive Forum

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- RMO1A 28GHz Phased-Array Transceivers for 5G Systems
- RMO1B Advanced Technologies for Optical, Millimeter-Wave and Radio Frequency Applications
- RMO1D High-Performance Frequency Synthesizers
- RMO2A Radio Building Blocks for 5G Systems
- RMO2B Modeling and Characterization for Emerging High Frequency and RF Front-End Applications
- RMO2D Millimeter-Wave and THz Sources
- RMO3A Ultra-Low Power Wake-Up Receivers
- RMO3B Next Generation Transmitters and Receivers for Cellular and Wireless Connectivity
- RMO3D X Band PAs and Beyond
- RMO4A Low-Power Transceivers
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- RTU2D Power Amplifiers in Advanced Technologies

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RFIC Plenary

Chair: Kevin W. Kobayashi, QORVO

Co-Chairs: Walid Ali-Ahmad, Qualcomm and Stefano Pellerano, Intel

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Seizo Onoe, NTT DOCOMO, Japan A

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Gabriel M. Rebeiz, University of California, San Diego, USA A

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Yudong Zhang, Jianxun Zhu, Peter R. Kinget, Columbia University, USA 
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F. Simb  lie¹, V. Gillet¹, S. Laurent¹, P. M  drel¹, Y. Creveuil², M. R  gis², M. Prigent¹, R. Qu  r  ¹
¹XLIM, France ; ²ACCO Semiconductor, France 
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Gabor Varga, Fabian Speicher, Arun Ashok, Iyappan Subbiah, Moritz Schrey, Ralf Wunderlich, Stefan Heinen, RWTH Aachen University, Germany 
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D. Nicolas¹, A. Serhan¹, A. Giry¹, T. Parra², E. Mercier¹
¹CEA-LETI, France ; ²LAAS, France 
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Wei-Ling Chang¹, Jen-Yi Su¹, Chinchun Meng¹, Chia-Hung Chang¹, Guo-Wei Huang²
¹National Chiao Tung University, Taiwan ; ²National Nano Device Laboratories, Taiwan 

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Mohammad Mahani¹, Rod Zavari¹, Su-Tarn Lim¹, David Hong¹, Karl Scheffer¹, Peter Graumann¹, Hans Ransijn², Tomas Dusatko³, Stanley Ho³, Philip Snyder², Jomy Joy⁴, Suresh Nalluri⁴, Tony Zortea²
¹Microsemi, Canada ; ²Multiphy, USA ; ³Inphi, Canada ; ⁴Texas Instruments, India 
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Hao Wu, David Murphy, Hooman Darabi, Broadcom, USA 
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¹NXP Semiconductors, The Netherlands ; ²KTH, Sweden 
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Yang Zhang, Patrick Reynaert, Katholieke Universiteit Leuven, Belgium 
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RMO1A: 28GHz Phased-Array Transceivers for 5G Systems

Chair: Stefano Pellerano, Intel Corporation — Co-Chair: Hossein Hashemi, University of Southern California

HCC Room 312, Time 08:00 – 09:20, Monday 5th June 2017

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Chair: Freek van Straten, Ampleon — Co-Chair: Richard Chan, QORVO

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Elsa Lacombe¹, Frederic Giancesello¹, Cedric Durand¹, Guillaume Ducournau², Cyril Luxey³, Daniel Gloria¹
¹STMicroelectronics, France **A** ; ²IEMN, France **A** ; ³EpOC-UNS, France **A**
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*M.S.M. Al-Sa'di, J.J.T.M. Donkers, P.H.C. Magnée, I. Brunets, J.W. Slotboom, NXP Semiconductors, The Netherlands **A***
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Josef Watts¹, Kumaran Sundaram², Kok Wai Johnny Chew², Steffen Lehmann³, Shih Ni Ong², Wai Heng Chow², Lye Hock Chan², Jerome Mazurier⁴, Christoph Schwan³, Yogadissen Andee⁴, Thomas Feudel³, Luca Pirro⁴, Elke Erben³, Edward Nowak¹, Elliot Smith³, El Mehdi Bazizi³, Thorsten Kammiller³, Richard Taylor III¹, Bryan Rice³, David Harame³
¹GLOBALFOUNDRIES, USA **A** ; ²GLOBALFOUNDRIES, Singapore **A** ; ³GLOBALFOUNDRIES, Germany **A** ; ⁴CEA-LETI, France **A**
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- C** Validation of a Functional Principle for a Broadband Millimeter-Wave Power Detection Structure in a Recent BiCMOS Technology
F. Trenz¹, R. Weigel¹, Dietmar Kissinger²
¹FAU Erlangen-Nürnberg, Germany **A** ; ²IHP, Germany **A**

RMO1D: High-Performance Frequency Synthesizers

Chair: Jeyanandh Paramesh, Carnegie Mellon University — Co-Chair: Jaber Khoja, Rockwell Collins

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Xiaolong Liu¹, Yue Chao², Howard C. Luong¹
¹HKUST, China **A** ; ²Qualcomm, USA **A**
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*Jakob Vovnoboy, Run Levinger, Nadav Mazor, Danny Elad, ON Semiconductor, Israel **A***
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*Dongseok Shin, Shinwoong Park, Sanjay Raman, Kwang-Jin Koh, Virginia Tech, USA **A***
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T. Buckel¹, T. Mayer², T. Bauernfeind², S. Tertinek², C. Wicpalek², A. Springer¹, R. Weigel³, T. Ussmueller⁴
¹Johannes Kepler Universität Linz, Austria **A** ; ²DMCE, Austria **A** ; ³FAU Erlangen-Nürnberg, Germany **A** ; ⁴Universität Innsbruck, Austria **A**
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*Dongyi Liao, Ruixin Wang, Fa Foster Dai, Auburn University, USA **A***

RMO2A: Radio Building Blocks for 5G Systems

Chair: Walid Ali-Ahmad, Qualcomm — Co-Chair: Bodhisatwa Sadhu, IBM T.J. Watson Research Center

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<i>Susnata Mondal, Rahul Singh, Ahmed I. Hussein, Jeyanandh Paramesh, Carnegie Mellon University, USA</i>  |
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<i>Aurangozeb¹, Farshid Aryanfar², Masum Hossain¹</i>
¹ University of Alberta, Canada  ; ² Straight Path Communications, USA  |
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<i>Sunmin Jang¹, Jaehun Jeong², Rundao Lu¹, Michael P. Flynn¹</i>
¹ University of Michigan, USA  ; ² Broadcom, USA  |

RMO2B: Modeling and Characterization for Emerging High Frequency and RF Front-End Applications

Chair: Tzung-Yin Lee, Skyworks Solutions — Co-Chair: Edward Preisler, TowerJazz

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Hamid Khatibi¹, Somayeh Khiyabani¹, Andreia Cathelin², Ehsan Afshari³
¹Cornell University, USA ; ²STMicroelectronics, France ; ³University of Michigan, USA 
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Raphaël Guillaume¹, François Rivet², Andreia Cathelin¹, Yann Deval²
¹STMicroelectronics, France ; ²IMS (UMR 5218), France 
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Philipp Hillger¹, Janusz Grzyb¹, Stefan Malz¹, Bernd Heinemann², Ullrich Pfeiffer¹
¹Bergische Universität Wuppertal, Germany ; ²IHP, Germany 
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Ali Mostajeran, Ehsan Afshari, Cornell University, USA 

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Chair: David Wentzloff, University of Michigan — Co-Chair: Arun Natarajan, Oregon State University

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Erkan Alpman¹, Ahmad Khairi², Minyoung Park¹, V. Srinivasa Somayazulu¹, Jeffrey R. Foerster¹, Ashoke Ravi¹, Stefano Pellerano¹
¹Intel, USA ; ²Carnegie Mellon University, USA 
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Kamala Raghavan Sadagopan¹, Jian Kang¹, Sanket Jain¹, Yogesh Ramadass², Arun Natarajan¹
¹Oregon State University, USA ; ²Texas Instruments, USA 
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Anjana Dissanayake, Hyun-Gi Seok, Oh-Yong Jung, Sok-Kyun Han, Sang-Gug Lee, KAIST, Korea 

RMO3B: Next Generation Transmitters and Receivers for Cellular and Wireless Connectivity

Chair: Julian Tham, Cypress Semiconductor — Co-Chair: Yuan-Hung Chung, MediaTek

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M. Mehrpoo, Mohsen Hashemi, Yiyu Shen, Rene van Leuken, Morteza S. Alavi, Leo C.N. de Vreede, Technische Universiteit Delft, The Netherlands **A**
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Yiyu Shen¹, M. Mehrpoo¹, Mohsen Hashemi¹, Michael Polushkin¹, Lei Zhou¹, Mustafa Acar², Rene van Leuken¹, Morteza S. Alavi¹, Leo C.N. de Vreede¹
¹Technische Universiteit Delft, The Netherlands **A**; *²Ampleon, The Netherlands* **A**
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Youngmin Kim, Pilsung Jang, Taehwan Jin, Jaeseung Lee, Heeseon Shin, Suseob Ahn, Jungyeol Bae, Junghwan Han, Seungchan Heo, Thomas Byunghak Cho, Samsung, Korea **A**

RMO3D: X Band PAs and Beyond

Chair: Jeffrey Walling, University of Utah — Co-Chair: Ranjit Gharpurey, University of Texas at Austin

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<i>Sheikh Nijam Ali¹, Pawan Agarwal¹, Shahriar Mirabbasi², Deukhyoun Heo¹</i>
¹ Washington State University, USA  ; ² University of British Columbia, Canada  |
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<i>Daechul Jeong¹, Kyunghoon Moon¹, Seokwon Lee¹, Byungjoon Park², Jihoon Kim², Juho Son², Bumman Kim¹</i>
¹ POSTECH, Korea  ; ² Samsung, Korea  |
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<i>Farid Shirinfar¹, Reza Rofougaran², Sudhakar Pamarti¹</i>
¹ University of California, Los Angeles, USA  ; ² Movandi, USA  |

RMO4A: Low-Power Transceivers

Chair: Gernot Hueber, NXP Semiconductors — Co-Chair: Yao-Hong Liu, imec

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<i>Brad Wheeler, Filip Maksimovic, Nima Baniasadi, Sahar Mesri, Osama Khan, David Burnett, Ali Niknejad, Kris Pister, University of California, Berkeley, USA</i>  |
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<i>Ao Ba, Kia Salimi, Paul Mateman, Pepijn Boer, Johan van den Heuvel, Jordy Gloudemans, Johan Dijkhuis, Ming Ding, Yao-Hong Liu, Christian Bachmann, Guido Dolmans, Kathleen Philips, Holst Centre, The Netherlands</i>  |
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<i>Meng Wei, Zheng Song, Peiyi Li, Jianfu Lin, Junfeng Zhang, Jiachen Hao, Baoyong Chi, Tsinghua University, China</i>  |
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¹ MediaTek, Singapore  ; ² MediaTek, USA  |

RMO4B: RF Circuits for Emerging Applications and Gigabit Optical Links

Chair: Fred Lee, Google — Co-Chair: Ayman Fayed, Ohio State University

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15:30

C A 12-b, 1-GS/s 6.1mW Current-Steering DAC in 14nm FinFET with 80dB SFDR for 2G/3G/4G Cellular Application

Jaekwon Kim, Woojin Jang, Yanghun Lee, Seunghyun Oh, Jongwoo Lee, Thomas Byunghak Cho, Samsung, Korea 

PAGE 252
RMO4B-2
15:50

C CMOS Integrated Galvanically Isolated RF Chip-to-Chip Communication Utilizing Lateral Resonant Coupling

Mahdi Javid¹, Richard Burton², Karel Ptacek³, Jennifer Kitchen¹

¹Arizona State University, USA ; ²Atomera, USA ; ³ON Semiconductor, Czech Republic 

PAGE 256
RMO4B-3
16:10

C A 200 μ m $\times$ 200 μ m $\times$ 100 μ m, 63nW, 2.4GHz Injectable Fully-Monolithic Wireless Bio-Sensing System

S. O'Driscoll¹, S. Korhummel¹, P. Cong¹, Y. Zou¹, K. Sankaragomathi¹, J. Zhu², T. Deyle³, A. Dastgheib¹, B. Lu¹, M. Tierney¹, J. Shao¹, C. Gutierrez¹, S. Jones¹, H. Yao¹

¹Verily, USA ; ²Google, USA ; ³Cobalt Robotics, USA 

PAGE 260
RMO4B-4
16:30

C SiGe BiCMOS Linear Modulator Drivers with 4.8-V_{pp} Differential Output Swing for 120-GBaud Applications

Robert J.A. Baker¹, James Hoffman¹, Peter Schvan², Sorin P. Voinigescu¹

¹University of Toronto, Canada ; ²Ciena, Canada 

PAGE 264
RMO4B-5
16:50

C A 32Gb/s-NRZ, 15GBaud/s-PAM4 DFB Laser Driver with Active Back-Termination in 65nm CMOS

Bozhi Yin¹, Nan Qi¹, Jingbo Shi¹, Xi Xiao², Daigao Chen², Miaofeng Li², Zhiyong Li³, Jiangbing Du⁴, Zuyuan He⁴, Rui Bai⁵, Yi Wang⁶, Jun Zheng⁶, Fred Chang⁶, Huanlin Zhang⁶, Patrick Yin Chiang¹

¹Fudan University, China ; ²Wuhan Research Institute of Post & Telecommunication, China ; ³Chinese Academy of Sciences, China ; ⁴Shanghai Jiao Tong University, China ; ⁵PhotonIC Technology, China ; ⁶Applied Optoelectronics, USA 

RMO4D: Reconfigurable Receiver Front-Ends

Chair: Eric Klumperink, University of Twente — Co-Chair: Ramesh Harjani, University of Minnesota

HCC Room 313B, Time 15:30 – 17:10, Monday 5th June 2017

- | | |
|------------------------------|---|
| PAGE 268
RMO4D-1
15:30 | C A Direct RF-to-Information Converter for Reception and Wideband Interferer Detection Employing Pseudo-Random LO Modulation
<i>Tanbir Haque, Mathew Bajor, Yudong Zhang, Jianxun Zhu, Zaron Jacobs, Robert Kettlewell, John Wright, Peter R. Kinget, Columbia University, USA</i> |
| PAGE 272
RMO4D-2
15:50 | C A 0.3GHz to 1.4GHz N-Path Mixer-Based Code-Domain RX with TX Self-Interference Rejection
<i>Abhishek Agrawal, Arun Natarajan, Oregon State University, USA</i> |
| PAGE 276
RMO4D-3
16:10 | C A 0.7 to 1GHz Switched-LC N-Path LNA Resilient to FDD-LTE Self-Interference at ≥ 40MHz Offset
<i>Gengzhen Qi¹, Barend van Liempd², Pui-In Mak¹, Rui P. Martins¹, Jan Craninckx²</i>
¹ University of Macau, China ; ² imec, Belgium |
| PAGE 280
RMO4D-4
16:30 | C A Mixer-First Receiver with Enhanced Selectivity by Capacitive Positive Feedback Achieving +39dBm IIP3 and <3dB Noise Figure for SAW-Less LTE Radio
<i>Yuanching Lien¹, Eric Klumperink¹, Bernard Tenbroek², Jon Strange², Bram Nauta¹</i>
¹ University of Twente, The Netherlands ; ² MediaTek, UK |
| PAGE 284
RMO4D-5
16:50 | C 85–110GHz CMOS Tunable Nonreciprocal Transmission Line with 45dB Isolation for Wideband Transceivers
<i>Chang Yang, Ping Gui, Southern Methodist University, USA</i> |

RTU1A: RF Front-End Building Blocks

Chair: Gary Zhang, Guangdong University of Technology — Co-Chair: Bodhisatwa Sadhu, IBM T.J. Watson Research Center

HCC Room 312, Time 08:00 – 09:40, Tuesday 6th June 2017

- | | |
|------------------------------|---|
| PAGE 288
RTU1A-1
08:00 | C A Bi-Directional, X-Band 6-Bit Phase Shifter for Phased Array Antennas Using an Active DPDT Switch
<i>Yunyi Gong, Moon-Kyu Cho, John D. Cressler, Georgia Institute of Technology, USA</i> |
| PAGE 292
RTU1A-2
08:20 | C Low Power Highly Linear Band-Pass/Band-Stop Filter for 2–4GHz with Less than 1% of Fractional Bandwidth in 0.13μm CMOS Technology
<i>Laya Mohammadi, Kwang-Jin Koh, Virginia Tech, USA</i> |
| PAGE 296
RTU1A-3
08:40 | C A Feedforward Linearization Technique Implemented in IF Band for Active Down-Conversion Mixers
<i>Hao Li¹, Xiao Yang², Carlos E. Saavedra¹</i>
¹ Queen's University, Canada ; ² Huaqiao University, China |
| PAGE 300
RTU1A-4
09:00 | C A 1–30GHz 3-Bit Vector Modulator Based on Ultra-Wideband IQ-Generation for MIMO-Radar-Systems in SiGe BiCMOS
<i>Benedikt Welp¹, Askold Meusling², Klaus Aufinger³, Nils Pohl⁴</i>
¹ Fraunhofer FHR, Germany ; ² Airbus Defence & Space, Germany ; ³ Infineon Technologies, Germany ; ⁴ Ruhr-Universität Bochum, Germany |
| PAGE 304
RTU1A-5
09:20 | C A 0.05–6GHz Voltage-Mode Harmonic Rejection Mixer with up to 30dBm In-Band IIP3 and 35dBc HRR in 32nm SOI CMOS
<i>Kerim Kibaroglu, Gabriel M. Rebeiz, University of California, San Diego, USA</i> |

RTU1B: Advanced Millimeter-Wave Circuit Techniques

Chair: Hua Wang, Georgia Institute of Technology — Co-Chair: Pierre Busson, STMicroelectronics

HCC Room 313A, Time 08:00 – 09:40, Tuesday 6th June 2017

- | | |
|---------------------------------------|---|
| <p>PAGE 308
RTU1B-1
08:00</p> | <p>C An 80–106GHz CMOS Amplifier with 0.5V Supply Voltage
 <i>K. Katayama¹, S. Amakawa¹, K. Takano¹, T. Yoshida¹, M. Fujishima¹, K. Hisamitsu², H. Takatsuka²</i>
 ¹Hiroshima University, Japan  ; ²Mie Fujitsu Semiconductor, Japan </p> |
| <p>PAGE 312
RTU1B-2
08:20</p> | <p>C A 77-GHz Active Millimeter-Wave Reflector for FMCW Radar
 <i>M. Sadegh Dadash¹, Juergen Hasch², Sorin P. Voinigescu¹</i>
 ¹University of Toronto, Canada  ; ²Robert Bosch, Germany </p> |
| <p>PAGE 316
RTU1B-3
08:40</p> | <p>C A High-Performance Slow-Wave CPW with ESD Protection for Ultraflat Band Millimeter-Wave Applications
 <i>Wei Gao¹, Handoko Linewih¹, Suh-Fei Lim¹, Jian-Hsing Lee², Sern-Ee Leang¹</i>
 ¹GLOBALFOUNDRIES, Singapore  ; ²GLOBALFOUNDRIES, USA </p> |
| <p>PAGE 320
RTU1B-4
09:00</p> | <p>C Circuit Building Blocks for Efficient In-Antenna Power Combining at 240GHz with non-50 Ohm Amplifier Matching Impedance
 <i>Christian v. Vangerow¹, Benjamin Goettel¹, Herman Jalli Ng², Dietmar Kissinger², Thomas Zwick¹</i>
 ¹KIT, Germany  ; ²IHP, Germany </p> |
| <p>PAGE 324
RTU1B-5
09:20</p> | <p>C A 27.9–53.5-GHz Transformer-Based Injection-Locked Frequency Divider with 62.9% Locking Range
 <i>Jingzhi Zhang, Huihua Liu, Yunqiu Wu, Chenxi Zhao, Kai Kang, UESTC, China</i> </p> |

RTU1D: Reconfigurable Multi-Mode PAs

Chair: Patrick Reynaert, Katholieke Universiteit Leuven — Co-Chair: Gary Hau, Qualcomm

HCC Room 313B, Time 08:00 – 09:40, Tuesday 6th June 2017

- | | |
|---------------------------------------|--|
| <p>PAGE 328
RTU1D-1
08:00</p> | <p>C A Digital mm-Wave PA Architecture with Simultaneous Frequency and Back-Off Reconfigurability
 <i>Chandrakanth R. Chappidi, Xue Wu, Kaushik Sengupta, Princeton University, USA</i> </p> |
| <p>PAGE 332
RTU1D-2
08:20</p> | <p>C A Digitally-Tuned Triple-Band Transformer Power Combiner for CMOS Power Amplifiers
 <i>Rahul Singh, Jeyanandh Paramesh, Carnegie Mellon University, USA</i> </p> |
| <p>PAGE 336
RTU1D-3
08:40</p> | <p>C A Split-Array, C-2C Switched-Capacitor Power Amplifier in 65nm CMOS
 <i>Zhidong Bai, Wen Yuan, Ali Azam, Jeffrey S. Walling, University of Utah, USA</i> </p> |
| <p>PAGE 340
RTU1D-4
09:00</p> | <p>C A 20dBm Outphasing Class E PA with High Efficiency at Power Back-Off in 65nm CMOS Technology
 <i>Ali Ghahremani, Anne-Johan Annema, Bram Nauta, University of Twente, The Netherlands</i> </p> |
| <p>PAGE 344
RTU1D-5
09:20</p> | <p>C An S/X-Band CMOS Power Amplifier Using a Transformer-Based Reconfigurable Output Matching Network
 <i>Jaeyong Ko¹, Sungho Lee², Sangwook Nam¹</i>
 ¹Seoul National University, Korea  ; ²KETI, Korea </p> |

RTU2A: Full-Duplex, Interference-Resilient and Harmonic-Rejection Receivers

Chair: Renaldi Winoto, Marvell Semiconductor — Co-Chair: Raja Pullela, MaxLinear

HCC Room 312, Time 10:00 – 11:40, Tuesday 6th June 2017

- PAGE 348
RTU2A-1
10:00
- C** **Low Power Wideband Receiver with RF Self-Interference Cancellation for Full-Duplex and FDD Wireless Diversity**
E. Kargaran, S. Tijani, G. Pini, D. Manstretta, R. Castello, Università di Pavia, Italy **A**
- PAGE 352
RTU2A-2
10:20
- C** **An FD/FDD Transceiver with RX Band Thermal, Quantization, and Phase Noise Rejection and >64dB TX Signal Cancellation**
Sameet Ramakrishnan, Lucas Calderin, Ali Niknejad, Borivoje Nikolić, University of California, Berkeley, USA **A**
- PAGE 356
RTU2A-3
10:40
- C** **A CMOS UWB Receiver with Reconfigurable Notch Filters for Narrow-Band Interferers**
Paria Sepidband, Kamran Entesari, Texas A&M University, USA **A**
- PAGE 360
RTU2A-4
11:00
- C** **A Full-Duplex Receiver with 80MHz Bandwidth Self-Interference Cancellation Circuit Using Baseband Hilbert Transform Equalization**
A. El Sayed¹, A. Ahmed¹, A.K. Mishra¹, A.H.M. Shirazi¹, S.-P. Woo¹, Y.-S. Choi², Shahriar Mirabbasi¹, S. Shekhar¹
¹University of British Columbia, Canada **A** ; ²Intel, USA **A**
- PAGE 364
RTU2A-5
11:20
- C** **A Wideband Receiver Employing PWM-Based Harmonic Rejection Downconversion**
Heechai Kang, Wei-Gi Ho, Vineet Singh, Ranjit Gharpurey, University of Texas at Austin, USA **A**

RTU2B: System-on-Chip for Millimeter-Wave and Above

Chair: Vito Giannini, UHNDER — Co-Chair: Tim LaRocca, Northrop Grumman Aerospace Systems

HCC Room 313A, Time 10:00 – 11:40, Tuesday 6th June 2017

- PAGE 368
RTU2B-1
10:00
- C** **Highly-Miniaturized 2-Channel mm-Wave Radar Sensor with On-Chip Folded Dipole Antennas**
Herman Jalli Ng¹, Wael Ahmad¹, Maciej Kucharski¹, Jeng-Hau Lu², Dietmar Kissinger¹
¹IHP, Germany **A** ; ²National Chiao Tung University, Taiwan **A**
- PAGE 372
RTU2B-2
10:20
- C** **Fully-Scalable 2D THz Radiating Array: A 42-Element Source in 130-nm SiGe with 80-μW Total Radiated Power at 1.01THz**
Zhi Hu, Ruonan Han, MIT, USA **A**
- PAGE 376
RTU2B-3
10:40
- C** **A Wideband SiGe BiCMOS Transceiver Chip-Set for High-Performance Microwave Links in the 5.6–43.5GHz Range**
Y. Baeyens¹, S. Shahramian¹, B. Jalali¹, P. Roux¹, J. Weiner¹, A. Singh¹, M. Moretto², P. Boutet², P. Lopez²
¹Nokia Bell Labs, USA **A** ; ²Nokia, France **A**
- PAGE 380
RTU2B-4
11:00
- C** **A Fully-Integrated 94-GHz 32-Element Phased-Array Receiver in SiGe BiCMOS**
Jean-Olivier Plouchart¹, Wooram Lee¹, Caglar Ozdag², Yigit Aydogan³, Mark Yeck¹, Alper Cabuk², Asim Kepkep², Emre Apaydin², Alberto Valdes-Garcia¹
¹IBM T.J. Watson Research Center, USA **A** ; ²MKR-IC, Turkey **A** ; ³ASELSAN, Turkey **A**
- PAGE 384
RTU2B-5
11:20
- C** **A 71–86GHz Bidirectional Image Selection Transceiver Architecture**
Najme Ebrahimi, James F. Buckwalter, University of California, San Diego, USA **A**

RTU2D: Power Amplifiers in Advanced Technologies

Chair: Margaret Szymanowski, NXP Semiconductors — Co-Chair: Nick Cheng, Skyworks Solutions

HCC Room 313B, Time 10:00 – 11:40, Tuesday 6th June 2017

PAGE 388
RTU2D-1
10:00

- C** **Peaking PA Bias Circuit for an APT CMOS Doherty PA**
Joonhoi Hur, Paul Draxler, Jeong-won Park, Anthony Segoria, Vladimir Aparin, Qualcomm, USA **A**

PAGE 390
RTU2D-2
10:20

- C** **An X-Band Inverse Class-F SiGe HBT Cascode Power Amplifier with Harmonic-Tuned Output Transformer**
Inchan Ju, John D. Cressler, Georgia Institute of Technology, USA **A**

PAGE 394
RTU2D-3
10:40

- C** **A 6–18GHz GaN Distributed Power Amplifier Using Reactive Matching Technique and Simplified Bias Network**
Hongjong Park¹, Sangho Lee¹, Kwangseok Choi¹, Jihoon Kim¹, Hyosung Nam², Jaeduk Kim³, Wangyong Lee³, Changhoon Lee⁴, Junghyun Kim², Youngwoo Kwon¹
¹Seoul National University, Korea **A** ; ²Hanyang University, Korea **A** ; ³LIG Nex1, Korea **A** ; ⁴ADD, Korea **A**

PAGE 398
RTU2D-4
11:00

- C** **A Ka-Band Asymmetrical Stacked-FET MMIC Doherty Power Amplifier**
Duy P. Nguyen, Thanh Pham, Anh-Vu Pham, University of California, Davis, USA **A**

PAGE 402
RTU2D-5
11:20

- C** **A 73GHz PA for 5G Phased Arrays in 14nm FinFET CMOS**
Steven Callender, Stefano Pellerano, Christopher Hull, Intel, USA **A**