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EuMIC01 : EuMIC Opening

Chair: Marion K. Matters-Kammerer, Technische Universiteit Eindhoven, The Netherlands
Co-Chair: Cicero S. Vaucher, NXP Semiconductors, The Netherlands
08:30–10:10, Monday 22nd September 2025, Polar

(NA) **Welcome Address: Opening of the European Microwave Integrated Circuits Conference 2025**
Marion K. Matters-Kammerer, Technische Universiteit Eindhoven, The Netherlands

(NA) **mm-Wave Radar and Beyond: An Automotive Sensing Perspective**
Kostas Doris, NXP Semiconductors, The Netherlands

(NA) **Next-Gen Terahertz SoCs: Light-Field Imaging and Scalable Incoherent Architectures**
Ullrich R. Pfeiffer, Bergische Universität Wuppertal, Germany

EuMIC02 : Doherty Amplifiers and Linearizers for Communication Systems

Chair: Kevin Morris, University of Leeds, UK — Co-Chair: Chiara Ramella, Politecnico di Torino, Italy
10:50–12:30, Monday 22nd September 2025, Mission 1

1 **An Integrated GaAs HBT Doherty Power Amplifier for Wi-Fi 6**
Francesco Manni[1], Rocco Giofrè[1], Corrado Florian[2], Alberto Maria Angelotti[2], Gian Piero Gibiino[2], Marco Pirola[3], Chiara Ramella[3], Paolo Colantonio[1]
[1]Università di Roma “Tor Vergata”, Italy; [2]Università di Bologna, Italy; [3]Politecnico di Torino, Italy

5 **An Ultra-Compact Ku-Band Doherty Power Amplifier with a Single-Footprint Triple Two-Turn Asymmetric Combiner for 6G FR3**
Jinglong Xu, Edward Liu, Mohamed Eleraky, Tzu-Yuan Huang, Chenhao Chu, Hua Wang, ETH Zürich, Switzerland

9 **Design of a 5W, 28–32GHz Doherty Power Amplifier Using 150-nm GaN Technology for 5G NR FR2 mmWave Communications**
Haftu Hiluf Kahsay[1], Pierre Medrel[1], Ayad Mohammed[2], Denis Barataud[1]
[1]XLIM (UMR 7252), France; [2]UMS, France

13 **Analog Predistorter for Millimeter-Wave Integrated Transmitters Implemented Using 22nm FDSOI**
Sauli Haukka, Jere Rusanen, Mikko Hietanen, Timo Rahkonen, Aarno Pärssinen, Janne P. Aikio, University of Oulu, Finland

17 **A Broadband Analog Linearizer for Ka-Band Satellite Communication Utilizing IMD Self-Alignment Based on Radiation Hard SiGe-HBT**
Stefan Koch[1], Michael Schick[2], Andreas Fischer[1], Christian Bohn[1], Michael Jutzi[1], Lars Baumgärtner[1], Alexander Scharpf[1], Jon Schlipf[1], Johannes S. Reckter[1], Björn Klingenberg[1]
[1]Tesat-Spacecom, Germany; [2]Michael Schick SiGe mmic Design, Germany

EuMIC03 : High-Performance Integrated LNAs

Chair: Vojkan Vidojkovic, Technische Universiteit Eindhoven, The Netherlands
Co-Chair: Ulrich J. Lewark, IMST, Germany
10:50–12:30, Monday 22nd September 2025, Mission 2

21 **Broadband LNA MMIC with Enhanced Selectivity Using an Optimized Coupled-Line Matching Network for Efficient Out-of-Band Rejection**
Sunghyuk Kim[1], Songjune Lee[1], Dabin Kim[1], Min-Su Kim[2], Junghyun Kim[1]
[1]Hanyang University, Korea; [2]Mokpo National University, Korea

25 **Linearity Enhancement of GaN LNA MMIC Using RF-Based Approach of Derivative Superposition**
Sanaul Haque[1], Ralf Doerner[2], Serguei Chevtchenko[2], Matthias Rudolph[2]
[1]BTU Cottbus-Senftenberg, Germany; [2]FBH, Germany

29 **Switch-Integrated GaN LNAs: A Technology-Focused Analysis**
Megha Krishnaji Rao[1], Petros Beleniotis[2], Thomas Hoffmann[1], Hossein Yazdani[3], Andreas Wentzel[1], Matthias Rudolph[1]
[1]FBH, Germany; [2]BTU Cottbus-Senftenberg, Germany; [3]PDI, Germany

33 **High Performance 6–18GHz Broadband LNA Design Using Self-Bias Network Optimization**
Songjune Lee[1], Sunghyuk Kim[1], Wonwoo Seo[1], Dabin Kim[1], Min-Su Kim[2], Junghyun Kim[1]
[1]Hanyang University, Korea; [2]Mokpo National University, Korea

37 **A 121–141GHz 6.3dB NF D-Band Low Noise Amplifier in 22-nm FDSOI**
Samir Aziri[1], Waseem Abbas[1], Christoph Wagner[1], Hao Gao[2], Peter Baltus[2]
[1]Silicon Austria Labs , Austria; [2]Technische Universiteit Eindhoven, The Netherlands

EuMIC04 : Technologies for mm-Wave Transmitters and Receivers

Chair: Frank E. van Vliet, TNO, The Netherlands
Co-Chair: Herbert Zirath, Chalmers University of Technology, Sweden
10:50–12:30, Monday 22nd September 2025, Quest

41 **A Superheterodyne 300GHz InGaAs Receiver and Transmitter Chipset for 6G and Beyond Applications**
Lukas Gebert[1], Benjamin Schoch[1], Thomas Ufschlag[1], Dominik Wrana[1], Simon Haussmann[1], Laurenz John[2], Sandrine Wagner[2], Ingmar Kallfass[1]
[1]Universität Stuttgart, Germany; [2]Fraunhofer IAF, Germany

45 **D-Band DPDT Switch with Reverse Saturated SiGe HBTs for Squint-Free Communication Systems**
Nicolò Moroni, Andrea Malignaggi, Corrado Carta, IHP, Germany

49 **A 276-GHz Beamforming Transmitter in 16-nm FinFET for Phased-Array Applications**
Runzhou Chen, Boxun Yan, Hao-Yu Chien, Mau-Chung Frank Chang, University of California, Los Angeles, USA

53 **A 25Gbps SiGe BiCMOS Quasi-Coherent Receiver Chip with Chromatic Dispersion Compensation for 5G and Beyond 5G Fronthaul**
Tom K. Johansen[1], Michele Squartecchia[2], Guillermo S. Valdecasa[1], Jose A. Altabas[2], Omar Gallardo[2], Jesper B. Jensen[2]
[1]Technical University of Denmark, Denmark; [2]Bifrost Communications, Denmark

57 **Resistive D-Band Mixers with Monolithic Integrated Broadband IF Balun and LO Amplifier**
Patrick Umbach, Fabian Thome, Arnulf Leuther, Rüdiger Quay, Fraunhofer IAF, Germany

EuMIC05 : Integrated Circuits for Emerging Applications

Chair: Nathalie Deltimple, IMS (UMR 5218), France
Co-Chair: Alessandro Cidronali, Università di Firenze, Italy
10:50–12:30, Monday 22nd September 2025, Expedition

61 **A 320GHz 32×32 Pixel Near-Field Sensor SoC for Real-Time Imaging in 130-nm SiGe BiCMOS**
Hamadi Sadkaoui[1], Philipp Hillger[1], Janusz Grzyb[1], Xinpeng Du[1], Marcel Andree[1], Holger Rücker[2], Ullrich R. Pfeiffer[1]
[1]Bergische Universität Wuppertal, Germany; [2]IHP, Germany

65 **Differential 45° Phase-Shifted LO Signal Generation to Enable Subharmonic IQ Modulation for Broadband 6G Communication in the D-Band**
Jan Schoepfel[1], Tobias T. Braun[2], Marcel van Delden[2], Nils Pohl[1]
[1]Fraunhofer FHR, Germany; [2]Ruhr-Universität Bochum, Germany

69 **Analysis and Development of a K-Band GaAs MMIC Voltage Controlled Reflection Amplifier Suitable for Active Reconfigurable Intelligent Surfaces**
Giovanni Lasagni, Marco Badii, Giovanni Collodi, Stefano Maddio, Monica Righini, Alessandro Cidronali, Università di Firenze, Italy

73 **Design and Wireless Characterisation of Cryogenic RF Oscillators**
Faedra Webers, Filip Tavernier, Patrick Reynaert, KU Leuven, Belgium

77 **A 0.003-mm^2 42.6-dB Gain Ultrawideband Inductor-Less LNA in 28-nm CMOS for Quantum Computing Readout Applications**
Mahesh Kumar Chaubey[1], Yin-Cheng Chang[2], Po-Chang Wu[2], Hann-Huei Tsai[2], Shawn S.H. Hsu[1]
[1]National Tsing Hua University, Taiwan; [2]NARLabs-TSRI, Taiwan

EuMIC06 : Microwave and mm-Wave Integrated Power Amplifiers

Chair: Nathalie Deltimple, IMS (UMR 5218), France
Co-Chair: Piyush Kaul, Technische Universiteit Eindhoven, The Netherlands
13:50–15:30, Monday 22nd September 2025, Mission 1

81 **A Ku-Band CMOS Power Amplifier with Common-Mode Suppression Using Inter-Stage Transformer**
Donghwan Seo[1], Jaeyong Lee[2], Jinho Yoo[2], Changkun Park[2]
[1]ADD, Korea; [2]Soongsil University, Korea

85 **A Dual-Drive Power Amplifier in 130nm CMOS for Ku-Band Applications**
Arya Moradinia, Kshitij Mohan Krishnan, Ed Balboni, Edgar Garay, Falcomm, USA

89 **76–81GHz Automotive Radar Power Amplifiers with High-Power High-Efficiency in 22-nm FDSOI**
Liyou Lu, Chi Zhang, Nourhan Elsayed, Abdellatif Bellaouar, GlobalFoundries, USA

93 **A 200mW, High-Gain GaN-Based D-Band Power Amplifier for 6G Communication Applications**
Thomas Zieciak, P. Neininger, Christian Friesicke, Peter Brückner, Rüdiger Quay, Fraunhofer IAF, Germany

97 **A 15dB Dynamic Range 110–170GHz AGC Loop for BIST Transmitter Power Monitoring**
Alper Güner, Batuhan Sutbas, Alper Karakuzulu, Corrado Carta, Mohamed H. Eissa, IHP, Germany

EuMIC07 : RF Building Blocks in CMOS and BiCMOS Technologies

Chair: Aleks Dyskin, NVIDIA, Israel
Co-Chair: Johan Bauwelinck, Ghent University, Belgium
13:50–15:30, Monday 22nd September 2025, Mission 2

101 **A 5–7GHz BiCMOS Front-End Module for WiFi 6e with 2.2dB NF and 16dBm P_{AVG} at -40dB EVM**
Davide Pecile [1], Andrea Pollin [1], Daniele Dal Maistro [2], Alberto Gambarucci [2], Giuseppe De Astis [2], Andrea Bevilacqua [1]
[1] Università di Padova, Italy; [2] Infineon Technologies, Austria

105 **X-Band CMOS Variable Gain Amplifier Using Mixed Structure of Variable Attenuation and Gain Stages with Impedance Buffer to Suppress Phase Variations for 6G Applications**
Yejin Kim, Dongin Min, Jaeyong Lee, Changkun Park, Soongsil University, Korea

109 **19–31GHz Wideband Electrical Balance Duplexer for In-Band Full Duplex Communication**
Armen Harutyunyan, Padmanava Sen, Barkhausen Institut, Germany

113 **A Cryogenic 30Gb/s PAM3 BiCMOS Serializer for Josephson Arbitrary Waveform Synthesizer**
Yerzhan Kudabay, Paul Julius Ritter, Vadim Issakov, Technische Universität Braunschweig, Germany

117 **A 2-to-1 PAM-4 Analog Multiplexer with Integrated Equalizer in 22nm FDSOI CMOS**
Khaled Matloub, Sorin Voinigescu, University of Toronto, Canada

EuMIC08 : mmWave Frequency Generation and Translation

Chair: Ingmar Kallfass, Universität Stuttgart, Germany
Co-Chair: Frank E. van Vliet, TNO, The Netherlands
13:50–15:30, Monday 22nd September 2025, Quest

121 **A 114–169GHz Compact, Power Efficient ×8 Frequency Multiplier in 40-nm CMOS**
Dong-Yeol Yang [1], Jae-Hyun Park [1], Seuk-Won Kang [1], Sungho Lee [2], Byung-Sung Kim [1]
[1] Sungkyunkwan University, Korea; [2] KETI, Korea

125 **Ultra-Broadband Frequency Multiplier (×8) Chain in 90-nm SiGe BiCMOS Technology at H-Band**
Frida Strömbeck [1], Herbert Zirath [1], Klaus Aufinger [2]
[1] Chalmers University of Technology, Sweden; [2] Infineon Technologies, Germany

129 **An H-Band Sub-Harmonically Pumped Up-Converter Mixer in 250nm InP DHBT Technology**
Yu Yan, Vessen Vassilev, Herbert Zirath, Chalmers University of Technology, Sweden

133 **A Fully Integrated 100GHz Phase-Locked Loop with 12% Tuning Range, 180-fs RMS Jitter in 22nm FDSOI Technology**
Nazmus Saquib, Mona M. Hella, Rensselaer Polytechnic Institute, USA

137 **A Fundamental D-Band VCO in SiGe:C HBT Technology for Next-Generation Automotive Applications**
Ahmad Zaben [1], Christian Bredendiek [2], Stephan Hauptmeier [1], Klaus Aufinger [3], Nils Pohl [1]
[1] Ruhr-Universität Bochum, Germany; [2] Fraunhofer FHR, Germany; [3] Infineon Technologies, Germany

EuMIC09: Emerging Architectures for Communications

Chair: Cicero S. Vaucher, NXP Semiconductors, The Netherlands
Co-Chair: Nils Pohl, Ruhr-Universität Bochum, Germany
13:50–15:30, Monday 22nd September 2025, Expedition

(NA) **Ultra-Wideband as The Next Ubiquitous Radio**
M. Roy, Qorvo, USA

142 **An Analog Frontend for an Ultra Low Power Wakeup Receiver for On-Off Keying at 434MHz with -94dBm Input Sensitivity and 28nW DC Power Consumption at 10kbps**
Georg Meller[1], Michael Methfessel[2], Florian Protze[1], Maximilian Froitzheim[1], Jens Wagner[1], Gunter Fischer[2], Frank Ellinger[1]
[1] Technische Universität Dresden, Germany; [2] IHP, Germany

146 **Enabling 2-D Beamforming for 6G Communication in the D-Band with a Scalable Transmitter MMIC Utilizing On-Chip Antennas**
Lasse Cordes[1], Jan Schöpfel[2], Hendrik L. Richter[1], Jonathan Bott[1], Nils Pohl[1], Tobias T. Braun[1]
[1] Ruhr-Universität Bochum, Germany; [2] Fraunhofer FHR, Germany

150 **Multichannel LO Generation for Frequency-Interleaving Systems**
Christoph Herold, Andrea Malignaggi, Corrado Carta, IHP, Germany

154 **Impact of Modulation Signals on Digital Self-Interference Cancellation in Amplitude Modulation Systems**
Alexander Ruderer[1], Fabian Lurz[1], Thomas Ussmueller[2]
[1] OvG Universität Magdeburg, Germany; [2] B&E antec, Germany

EuMIC10: EuMIC Foundry Panel

Chair: Patrick Reynaert, KU Leuven, Belgium
Co-Chair: Piyush Kaul, Technische Universiteit Eindhoven, The Netherlands
16:10–17:50, Monday 22nd September 2025, Progress

(NA) **Session Welcome**

(NA) **Introductory Presentations by the Panel Members**
Christof Heer[1], Patricie Merkert[2], N. Collaert[3], Alireze Shamsafar[4], Pascal Oberndorff[5], Gregory Clark[6]
[1] TSMC, The Netherlands; [2] Fraunhofer IAF, Germany; [3] imec, Belgium; [4] SMART Photonics, The Netherlands; [5] NXP Semiconductors, The Netherlands; [6] Qorvo, USA

(NA) **Panel Discussion**

EuMIC11 : GaN Amplifiers from VHF to V-band

Chair: Rocco Giofrè, Università di Roma “Tor Vergata”, Italy
Co-Chair: Konstantinos Mimis, Sony, UK
08:30–10:10, Tuesday 23rd September 2025, Mission 2

158 **100W and 80% Efficiency GaN PA for VHF Space-Borne Earth Sensing Applications**
Francesco Manni[1], Paolo Colantonio[1], Gianni Bosi[2], Francisco De Arriba[3], Lorena Cabria[3], Reinel Marante[3], Antonio Raffo[4], Giorgio Vannini[4], Rocco Giofrè[1]
[1]Università di Roma “Tor Vergata”, Italy; [2]Università di Milano-Bicocca, Italy; [3]Celestia TTI, Spain; [4]Università di Ferrara, Italy

162 **S-Band 600W Power Amplifier MMIC in 0.5μm GaN High Voltage Technology**
G. van der Bent[1], M. van Heijningen[1], S. Krause[2], A.P. de Hek[1], Frank E. van Vliet[1]
[1]TNO, The Netherlands; [2]Fraunhofer IAF, Germany

166 **A 4–18GHz Non-Uniform Distributed Power Amplifier in Leonardo’s 150-nm GaN-on-SiC Process Technology**
Alfonso Ferreras[1], Marta Ferreras[2], Álvaro Prieto[1], Javier Montero-de-Paz[1], Jesús Grajal[2], Juan José Sánchez-Martínez[1]
[1]Indra Sistemas, Spain; [2]Universidad Politécnica de Madrid, Spain

170 **Gallium Nitride Switchless PALNA MMIC Operating at Ka-Band Showing Typical 31dBm Output Power and 4.5dB Noise Figure**
Patrick Ettore Longhi, Walter Ciccognani, Sergio Colangeli, Antonio Serino, Ernesto Limiti, Università di Roma “Tor Vergata”, Italy

174 **A V-Band (61–72GHz) GaN HEMT High-Power Amplifier**
Moïse Safari Mugisho, Christian Friesicke, Sandrine Wagner, Rüdiger Quay, Fraunhofer IAF, Germany

EuMIC12 : mmWave Amplifiers and Components

Chair: Piyush Kaul, Technische Universiteit Eindhoven, The Netherlands
Co-Chair: Benjamin Schoch, Universität Stuttgart, Germany
08:30–10:10, Tuesday 23rd September 2025, Quest

178 **A 35–170GHz Ultrawideband Distributed Power Amplifier with >16% Peak PAE and 14dBm Peak Output Power in InP DHBT Technology**
Tanjil Shivan[1], Maruf Hossain[1], Tom K. Johansen[2], Hady Yacoub[1], Ralf Doerner[1], Wolfgang Heinrich[1], Viktor Krozer[1]
[1]FBH, Germany; [2]Technical University of Denmark, Denmark

182 **Current/Voltage Mode VCSEL Drivers with Tunable Pre-Emphasis for Large Temperature Range**
Stavros Giannakopoulos, Siavash Mowlavi, Lars Svensson, Chalmers University of Technology, Sweden

186 **105GHz Triple-Stack Distributed Amplifier in a 0.1μm Commercial GaAs Process**
Jakov Mihaljevic, Andrew J. Jones, Evan S. Shelley, Simon J. Mahon, Melissa C. Gorman, Macquarie University, Australia

190 **Influence of Phased Array Antenna Impedance on a 40–100GHz Active Circulator in Commercial GaAs**
Simon J. Mahon, Andrew J. Jones, Melissa C. Gorman, Macquarie University, Australia

194 **D-Band High-Gain Low-Power Phase Shifter for Transmitarray**
D. Parveg, J. Haarla, Arto Rantala, Antti Lamminen, Mikko Kantanen, Mikko Varonen, VTT, Finland

EuMIC13 : RF and Millimeter-Wave Devices

Chair: Dusan Milosevic, Technische Universiteit Eindhoven, The Netherlands
Co-Chair: Aleksander Bogusz, Cardiff University, UK
08:30–10:10, Tuesday 23rd September 2025, Expedition

198 **RF Performance of CMOS Technology Passive Devices Using 3D Hybrid Bonding Interconnections at mm-Wave Frequencies**
Mohammad Alsukour [1], Olivier Valorge [1], Margot Faure [1], Loïc Sanchez [1], Cédric Durand [2], Victor Milon [2], Loïc Vincent [3], Daniel Gloria [2], Pascal Chevalier [2], Emmanuel Pistono [4], Jean-Daniel Arnould [4], Christophe Dubarry [1]
[1] CEA-Leti, France; [2] STMicroelectronics, France; [3] CIME Nanotech, France; [4] TIMA (UMR 5159), France

202 **A Digitally Reconfigurable Shunt Capacitance in RF GaN Technology Based on Inter-Finger Capacitors**
Alessandro Chillico, Sophie Paul, Bernd Janke, Serguei Chevtchenko, Wolfgang Heinrich, Patrick Scheele, Olof Bengtsson, FBH, Germany

206 **A Highly Compact and Broadband Wilkinson Combiner for Automotive Radar**
B. van de Ven-van der Zanden, Marion K. Matters-Kammerer, Technische Universiteit Eindhoven, The Netherlands

210 **80GHz Stable Amplifier Utilizing the Standing-Wave Controlled Gate Structure**
Shinji Hara, Keiichi Sakuno, Nagoya University, Japan

214 **Low Phase-Noise THz-Generation Using SiN Kerr Microrings and MUTC-Photomixers**
Marcel Grzeslo [1], Jonas Tebart [2], Yılmaz Uçar [1], Shuya Iwamatsu [1], Thomas Haddad [2], Sumer Makhlouf [1], Andrej Lavrič [3], Andreas Stöhr [1]
[1] Microwave Photonics, Germany; [2] Universität Duisburg-Essen, Germany; [3] University of Ljubljana, Slovenia

EuMIC14 : mm-Wave GaN Technology

Chair: Chong Li, University of Glasgow, UK
Co-Chair: Jan Grahn, Chalmers University of Technology, Sweden
13:50–15:30, Tuesday 23rd September 2025, Mission 2

218 **High-Power and Low-Noise AlN/GaN/AlGaN-on-Si HEMT Technology for Low-Voltage mm-Wave Monolithically Integrated Mobile Front-End**
Yihao Zhuang [1], Hanchao Li [1], Qingyun Xie [2], Siyu Liu [1], Zhongzhiguang Lu [1], Pengju Cui [1], Hanlin Xie [2], Ameera Nur [3], Xavier Teo Leng Seah [4], Stefan Degroote [3], Marianne Germain [3], Yuanjin Zheng [1], Geok Ing Ng [1]
*[1]NTU, Singapore; [2]A*STAR, Singapore; [3]Soitec, Belgium; [4]Soitec, Singapore*

222 **High Efficiency and High Linearity 70nm GaN Technology for Future SatCom Applications**
P. Döring, Peter Brückner, S. Krause, T. Maier, Rüdiger Quay, Fraunhofer IAF, Germany

226 **GH10-UMS 100nm GaN Technology**
Samira Bouzid-Driad [1], Manfred Madel [2], Pierre Denis [2], Linh Trinh-Xuan [2], Alexandre Bessemoulin [1], Romain Pecheux [1], Gregory U'Ren [1], Rim Arouri [1], Jonathan Leroy [1], Valeria Di Giacomo-Brunel [1], Hermann Stieglauer [2], Herve Blanck [2]
[1]UMS, France; [2]UMS, Germany

230 **Large-Signal Performance Comparison of Ion Implant and Mesa Etch Isolated AlGaN/GaN HEMT Switches on Silicon**
Arthur Collier [1], Abdalla Eblabla [1], Wesley Sampson [1], Daniel Shepphard [2], Alan Harvey [2], Roberto Quaglia [1], Khaled Elgaid [1]
[1]Cardiff University, UK; [2]Leonardo, UK

234 **Characterization and Modeling of the 3D Integration Effects on GaN-on-Si-Based HEMTs for mmW Applications**
Mohammed Medbouhi [1], Gustavo Palomino-Marcelo [1], Olivier Valorge [1], Christophe Dubarry [1], Maria-Luisa Calvo-Muñoz [1], Rémi Franiatte [1], Daniel Mermin [1], Rémi Velard [1], Yveline Gobil [1], Fanny Morisot [1], Ariana Serrano [2], Gustavo Rehder [2], Erwan Morvan [1], Jose Lugo-Alvarez [1], Philippe Ferrari [3]
[1]CEA-Leti, France; [2]Universidade de São Paulo, Brazil; [3]TIMA (UMR 5159), France

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EuMIC15 : Characterization, Modelling, and Simulation of Devices and Circuits

Chair: Teresa M. Martín-Guerrero, Universidad de Málaga, Spain
Co-Chair: Ernesto Limiti, Università di Roma "Tor Vergata", Italy
13:50–15:30, Tuesday 23rd September 2025, Quest

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238 **Development of a GaAs Stacked Cells based on Common-Gate Model Extraction Procedure**
Negar Choupan[1], Valeria Vadalà[1], Gianni Bosi[1], Marco Pirola[2], Chiara Ramella[2]
[1]Università di Milano-Bicocca, Italy; [2]Politecnico di Torino, Italy

242 **Error Term Analysis in 16-Term Calibration: Enhancing SiGe HBT S-Parameter Accuracy up to 330GHz**
Tarek Bouzar[1], Jojo Varghese[1], Jean-Daniel Arnould[2], Thomas Zimmer[1], Sébastien Fregonese[1]
[1]IMS (UMR 5218), France; [2]TIMA (UMR 5159), France

246 **Measured and Simulated Linearity Metrics Comparison of a Pre-Matched AlGaN/GaN HEMT at 29GHz**
J.A. Silva dos Santos[1], J. Alleman[1], M. Leventoux[1], Pierre Medrel[1], C. Chang[2], R. Sommet[1], F. Courrèges[1], J.-C. Nallatamby[1]
[1]XLIM (UMR 7252), France; [2]UMS, France

250 **Field Plate Engineering for FETs using 1-D Model**
Ahmad S. Alavijeh, Kenji V. Morimoto, Luís C. Nunes, José C. Pedro, Universidade de Aveiro, Portugal

254 **Stability Envelope Using Nodal Transfer Functions**
Thomas A. Winslow, MACOM, USA

EuMIC16: Wideband and mm-Wave Building Blocks

Chair: Vojkan Vidojkovic, Technische Universiteit Eindhoven, The Netherlands
Co-Chair: Vadim Issakov, Technische Universität Braunschweig, Germany
13:50–15:30, Tuesday 23rd September 2025, Expedition

258 **V-Band InAlN/GaN/SiC MMIC Amplifier Embedded by Fan Out Wafer Level Packaging Technology**
S. Piotrowicz[1], M. Bouslama[1], S. Aroulanda[1], Linh Trinh-Xuan[2], L. Hamidouche[1], J.C. Jacquet[1], A. Jakani[1], Q. Levesque[1], R. Mathieu[3], N. Michel[1], M. Oualli[1], J. Riedl[3], B. Lambert[3], G. Gauthier[1]
[1]III-V Lab, France; [2]UMS, Germany; [3]UMS, France

262 **RF Front-End Building Blocks for 6G cmWave Radio Base Station in 300mm GaN-on-Si Technology**
Örjan Renström[1], Olle Axelsson[1], Olov Haapalahti[1], Henrik Felding[1], David Gustafsson[1], Kristoffer Andersson[2], Jag Rangaswamy[3], Marko Radosavljevic[3], Han Wui Then[3]
[1]Ericsson, Sweden; [2]Saab, Sweden; [3]Intel, USA

266 **A 60GHz LNA with Variable Transmission Characteristics Using Q-Enhancement**
Helmuth P.E. Morath, Jens Wagner, Frank Ellinger, Technische Universität Dresden, Germany

270 **A Tunable True Time Delay up to 50GHz Based on HBT Pairs in Stacked Common Base Topology with Incorporated Delay Lines**
Janis Nikolai Wörmann, Burak Güven Özat, Mathias Pius Scharpf, Mark Johannes Neff, Benjamin Schoch, Ingmar Kallfass, Universität Stuttgart, Germany

274 **2.5 to 64GHz Nonuniform Distributed Power Detector in 130nm SiGe BiCMOS**
Mark Johannes Neff, Burak Güven Özat, Janis Nikolai Wörmann, Prakhar Singhal, Benjamin Schoch, Ingmar Kallfass, Universität Stuttgart, Germany

EuMIC17: EuMIC Closing

Chair: Marion K. Matters-Kammerer, Technische Universiteit Eindhoven, The Netherlands
Co-Chairs: Patrick Reynaert, KU Leuven, Belgium and Piyush Kaul, Technische Universiteit Eindhoven, The Netherlands
16:10–17:50, Tuesday 23rd September 2025, Polar

(NA) **Session Welcome**
Marion K. Matters-Kammerer, Technische Universiteit Eindhoven, The Netherlands

(NA) **Progress in Design and Integration for Near-THz Wireless Communications Systems**
Yves Baeyens, Nokia Bell Labs, USA

(NA) **Awards Ceremony: EuMIC Prize, EuMIC Young Engineer Prizes, Tom Brazil Fellowship Award (by the GAAS Association)**
Andrea Neto[1], Marion K. Matters-Kammerer[2]
[1]Technische Universiteit Delft, The Netherlands; [2]Technische Universiteit Eindhoven, The Netherlands

(NA) **Closing Remarks**
Marion K. Matters-Kammerer, Technische Universiteit Eindhoven, The Netherlands

(NA) **Invitation to EuMW 2026**
Tudor Williams, Filtronic, UK

EuMIC/EuMC01 : Load-Modulated High-Efficiency Power Amplifiers

Chair: José Carlos Pedro, Instituto de Telecomunicações, Portugal, Portugal
Co-Chair: Mark Ingels, imec, Belgium
08:30–10:10, Tuesday 23rd September 2025, Mission 1

(NA) **RF-Input Sequential Circulator Load Modulated Amplifier with Back-Off Efficiency Enhancement**
Han Zhou, Haojie Chang, Christian Fager, Chalmers University of Technology, Sweden

(NA) **A Single-Driver Doherty Power Amplifier Module with Harmonic Load Insensitivity**
Ioannis Peppas[1], Mustazar Iqbal[2], Marco Pitton[2], Peter Singerl[2]
[1]Technische Universität Graz, Austria; [2]Infineon Technologies, Austria

(NA) **GaN-Based Digital Class-E Doherty Power Amplifier for 5G FR1 Frequency Band**
Giulia Bartolotti[1], Anna Piacibello[1], Vittorio Camarchia[1], Deguang Sun[2], Thomas Hoffmann[2], Andreas Wentzel[2]
[1]Politecnico di Torino, Italy; [2]FBH, Germany

(NA) **High Efficiency 2-Stage MMIC GaN Doherty Power Amplifiers with More Than 38% Fractional Bandwidth in C Band**
Victor Dufrene[1], Wilfried Demenitroux[1], Michel Campovecchio[2], Denis Barataud[2], Julien Ceugnart[1], Pablo Rochas[1], Olivier Jardel[1], Pierre-Yves Mailloux[1], Nicolas Berthou[1]
[1]Thales, France; [2]XLIM (UMR 7252), France

(NA) **Design of a Fast-Switchable Three-Stage GaN Doherty PA for High DC-to-RF Efficiency**
Maximilian Gottfried Becker, Robert Krämer, Marco Gunia, Frank Ellinger, Technische Universität Dresden, Germany

EuMIC/EuMC02 : Panel Session: On-Going R&D and Industrial Projects Towards More Sustainable Microwave Engineering

Chair: Ann Franchois, Ghent University, Belgium
Co-Chair: Jean-Pierre Raskin, UCLouvain, Belgium
13:50–15:30, Tuesday 23rd September 2025, Auditorium

(NA) **EIC Engagement with the European Sustainable Electronics Ecosystems**
Isabel Obieta, European Innovation Council, Belgium

(NA) **Pitches by Panelists from Industry and RTOs**
Bertrand Parvais[1], Gregory Clark[2], Duncan Platt[3], Moritz Schlagmann[4], Hugues Ferreboeuf[5]
[1]imec, Belgium; [2]Qorvo, USA; [3]RISE, Sweden; [4]Infineon Technologies, Germany; [5]The Shift Project, France

(NA) **Panel Discussion**
Jean-Pierre Raskin, UCLouvain, Belgium

EuMIC/EuMC03 : EuMIC/EuMC Interactive Poster Session

Chair: Piyush Kaul, Technische Universiteit Eindhoven, The Netherlands
Co-Chair: Mark S. Oude Alink, Universiteit Twente, The Netherlands
13:50–15:30, Tuesday 23rd September 2025, Hall 7

(NA) **X-Band GaN Low Noise Amplifier with Oscillation Suppression Techniques**
Bohyeon Kim, Hyojin Yoon, Jaeyong Lee, Changkun Park, Soongsil University, Korea

(NA) **Interference and Blockage Mitigation Through Direct RF System-on-Chip Receiver**
Francesco Raimondo, Xiaoqiang Gu, Mark A. Beach, University of Bristol, UK

(NA) **An Integrated W-Band Dual-Polarization Receiver Front-End Featuring Ultra-Low Noise Figure**
P. Neininger[1], Fabian Thome[1], S. Chartier[1], R. Henneberger[2], B. Thomas[3], Oilid Bouzekri[3], E. Richard[3]
[1]Fraunhofer IAF, Germany; [2]RPG Radiometer Physics, Germany; [3]ESA-ESTEC, The Netherlands

(NA) **GaN/Si 26–30GHz T/R Chip MMIC for 5G Communications**
A. Al Hajjar, V. Deremaux, M. El Kaamouchi, A. Gasmi, MACOM, France

(NA) **Design of High-Power Harmonic Controlled Doherty Power Amplifier Using Internally Matched 350-W GaN HEMT for RF Plasma Source**
Jisu Park[1], Minjae Ahn[1], Dongsu Kim[2], Yunsik Park[2], Hyunchul Ku[1]
[1]Konkuk University, Korea; [2]KETI, Korea

(NA) **Active RIS Element in Ka-Band Based on Slot Antennas and 1-Bit Digital Phase Shifter: A Novel Dual Input SiGe BiCMOS Low Noise Amplifier Implementation**
Roberto Vincenti Gatti, Giulio Brancali, Ethan Bernardini, Guendalina Simoncini, Giacomo Schiavolini, Giulia Orecchini, Federico Alimenti, Università di Perugia, Italy

(NA) **Frequency-Dependent Power Consumption Modeling of CMOS Transmitters for WNoC Architectures**
Mohammad Shahmoradi[1], Korkut Kaan Tokgöz[2], Eduard Alarcón[1], Sergi Abadal[1]
[1]Universitat Politècnica de Catalunya, Spain; [2]Sabanci University, Türkiye

(NA) **An Iterative Electro-Thermal Model for an Active Antenna Element and its Application to Arrays**
Feza Turgay Celik[1], Christian Fager[2], Alexander Yarovoy[1], Yanki Aslan[1]
[1]Technische Universiteit Delft, The Netherlands; [2]Chalmers University of Technology, Sweden

331 **A 9W Low-Cost GaAs MMIC Power Amplifier for X-Band Communications**
Carlo Poledrelli, Michael Ciardullo, Joseph Merenda, Mini-Circuits, USA

335 **A 0.4–2GHz MMIC LNA with Integrated Limiter**
Sergio Colangeli[1], Antonio Serino[1], Patrick Ettore Longhi[1], Walter Ciccognani[1], Francesco Vitulli[2], David Cuadrado-Calle[3], Valerie Dutto[3], Ernesto Limiti[1]
[1]Università di Roma "Tor Vergata", Italy; [2]Thales, Italy; [3]ESA-ESTEC, The Netherlands

339 **X-Band Asymmetric GaN HEMT SPDT Switch Using LC Resonator and Quarter-Wave Stub for High Power Handling Capability and High Isolation**
Seungjong Moon, Jaehyun Kwon, Jaeyong Lee, Changkun Park, Soongsil University, Korea

343 **Thermal Resistance Estimation for AlGaN/GaN HEMTs with Trapping Effects**
Zhijian Yu, A. Mirza Gheytaghi, Ampleon, The Netherlands

347 **Machine Learning Assisted Design of Frequency Variants of Low-Noise Amplifiers Using Hybrid of NN with Bayesian Optimization**
Mikko Kaikkonen, Sumra Batool, Muditha Ranaweera, Janne P. Aikio, Timo Rahkonen, Mikko Hietanen, Olli-Erkki Kursu, Olli Silvén, Aarno Pärssinen, University of Oulu, Finland

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351 **mm-Wave CMOS Layout Optimization and Accurate Noise Deembedding for Super-300GHz f_{MAX} and Minimum Noise**
Adhi Cahyo Wijaya, Jinq-Min Lin, Jyh-Chyurn Guo, NYCU, Taiwan

355 **50nm InP HEMTs with Tgates Fabricated by Single-Step Electron Beam Lithography for High-Frequency Applications**
Huihua Cheng [1], Long Jiang [2], Afesomeh Ofiare [1], Jichun Shi [1], Taiyu Ju [1], William McGenn [2], Danielle George [2], Chong Li [1]
[1] University of Glasgow, UK; [2] University of Manchester, UK

359 **Ka-Band True Time Delay in a 130-nm SiGe-BiCMOS Technology for Phased-Array Applications**
Lukas Schmitz, Olaf Saalmann, Fraunhofer FHR, Germany

363 **A 28-nm CMOS D-Band Passive Modulator Achieving 43-dB Image Rejection Ratio**
Tian-Wei Huang [1], Kai-Jie Chuang [1], Kin-Ping Tang [1], Yi-Wen Wang [1], Ting-Yu Chang [1], Jeng-Han Tsai [2]
[1] National Taiwan University, Taiwan; [2] National Taiwan Normal University, Taiwan

367 **A Millimeter-Wave Ultralow-Power Injection-Locked Frequency Divider with Dual-Mixing Technique in 90-nm CMOS Process**
Sheng-Chun Chen [1], Chau-Ching Chiong [2], Yun-Shan Wang [1], Huei Wang [1]
[1] National Taiwan University, Taiwan; [2] Academia Sinica, Taiwan

371 **Design of an X-Band Low Noise Amplifier with Integrated Limiter for Front-End Modules**
Tan Do, Huong Ngo, Nhat-Minh Ta, Binh L. Pham, Viettel Group, Vietnam

374 **A DC to 17GHz Area-Efficient VGA with 20dB Linear dB Tuning Range in 22nm FDSOI**
Kai Scheller, Andre Engelmann, Philip Hetterle, Jens Löffler, Robert Weigel, Albert-Marcel Schrotz, Norman Franchi, FAU Erlangen-Nürnberg, Germany

378 **Dual-Band Techniques in a 79/135GHz Power Amplifier in 28nm Bulk CMOS**
Yiqin Hou, Rainier van Dommele, Evangelos Zaoutis, Dusan Milosevic, Vojkan Vidojkovic, Technische Universiteit Eindhoven, The Netherlands

382 **Integrated Time Domain Multiplexer for Superconducting Qubit Control at Millikelvin Temperatures**
Vanessa Wirth, Sascha Breun, Jens Löffler, Manuel Koch, Michael Loose, Marco Dietz, Christian Carlowitz, Robert Weigel, Norman Franchi, FAU Erlangen-Nürnberg, Germany