

MONDAY



Room 10

EuMIC01

Si-based Transceiver Building Blocks

Chair: Noriharu Suematsu, Tohoku University
Co-Chair: Andrea Suriani, Thales Alenia

Room 11

EuMIC02

High Efficiency and Linear Power Amplifiers

Chair: Franco Giannini, University of Rome Tor Vergata
Co-Chair: Frank van Vliet, TNO

Room 12

EuMIC03

Novel Characterisation Techniques for Microwave Devices

Chair: Carlos Camacho-Peñalosa, Universidad de Malaga
Co-Chair: Raymond Quéré, University of Limoges

09:00 - 09:20

EuMIC01-01 **Reconfigurable 4 Channel Carrier Aggregation Receiver using Harmonic Recombination Technique**

S. Lee, D. Jeong, H. Jin, B. Kim, Pohang University of Science and Technology, Pohang, Republic of Korea

EuMIC02-01 **Wideband 3 Way Doherty RFIC with 12 dB Back-Off Power Range**

I. Blednov, NXP, Toulouse, France

EuMIC03-01 **Linearity Characterization of GaN HEMT Technologies Through Innovative Multi-Tone Load-Pull Measurements**

S. Kahil^{1,2}, S. Laurent¹, R. Quéré¹, J. Sombrin¹, D. Floriot², V. Brunel², C. Teyssandier², ¹XLIM, Limoges, France, ²United Monolithic Semiconductors, Villebon-sur-Yvette, France

09:20 - 09:40

EuMIC01-02 **Integrated Circuit Field Canceller System Suitable for Highly Integrated Connectivity Transceivers**

Z. E. Aboush^{1,2}, R. Herberholz^{2,1}, N. Dubash^{1,2}, A. Croxall^{2,1}, A. Aktas^{1,2}, J. Koeller^{1,2}, L. Briones^{1,2}, ¹Qualcomm Atheros, Inc., Tempe, United States, ²Qualcomm Technologies International, Ltd., Cambridge, United Kingdom

EuMIC02-02 **An Efficient W-Band InP DHBT Digital Power Amplifier**

A. Wentzel, M. Hossain, D. Stoppel, N. Weimann, V. Krozer, W. Heinrich, Ferdinand-Braun-Institut, Leibniz-Institut fuer Hoechsthochfrequenztechnik, Berlin, Germany

EuMIC03-02 **Low-Frequency Time-Domain Characterization for Fast and Reliable Evaluation of Microwave Transistor Performance**

G. Bosi¹, A. Raffo¹, V. Vadalà¹, F. Trevisan¹, G. Vannini¹, O. Cengiz², O. Sen², E. Ozbay², ¹University of Ferrara, Ferrara, Italy, ²Bilkent University, Ankara, Turkey

09:40 - 10:00

EuMIC01-03 **A 25 to 45 GHz SiGe Receiver MMIC**

L. E. Milner¹, J. T. Harvey², M. E. Parker¹, L. T. Hall¹, M. C. Rodriguez², M. C. Heimlich², S. J. Mahon², ¹Defence Science and Technology Group, Edinburgh, Australia, ²Macom, North Sydney, Australia, ³Macquarie University, Macquarie University, Australia

EuMIC02-03 **20 W S-band High Power Amplifier using Stacked FET Topology**

G. B. van der Bent, P. de Hek, F. E. van Vliet, TNO, Den Haag, Netherlands

EuMIC03-03 **Short Pulse Thermal Response of HBTs**

K. Yazawa^{1,3}, D. Kendig¹, A. Xiong², C. Charbonniaud², T. Gasselting², A. Shakouri³, ¹Microsanj LLC., Santa Clara, United States, ²AMCAD Engineering, Limoges, France, ³Purdue University, West Lafayette, United States

10:00 - 10:20

EuMIC01-04 **A Wideband Low Noise SiGe Medium Power Amplifier for X-Band Phased Array Applications**

C. Caliskan¹, I. Kalyoncu¹, E. Ozeren¹, M. Kaynak², Y. Gurbuz¹, ¹Sabancı University, Istanbul, Turkey, ²IHP Microelectronics, Frankfurt (Oder), Germany

EuMIC02-04 **Predistortion- and Development-Platform for Multi-Input RF Power Amplifiers**

P. Singer¹, T. Magesacher², M. Mataln¹, ¹Infineon Technologies Austria AG, Villach, Austria, ²Lund University, Lund, Sweden

EuMIC03-04 **Characterization and Modeling of Frequency Dispersion in RF LDMOS Transistors**

P. H. Aaen¹, L. Zhang², K. Kim², ¹University of Surrey, Guildford, United Kingdom, ²NXP, Chandler, United States

10:20 - 10:40

EuMIC01-05 **Quasi-Circulator Based Automotive Monostatic Transceiver with Integrated Leakage Canceller**

M. Porrantz¹, C. Wagner², H. Jaeger², A. Stelzer¹, ¹Johannes Kepler Universität Linz, Linz, Austria, ²Danube Integrated Circuit Engineering, Linz, Austria

EuMIC02-05 **Solid-State RF Power Amplifiers for ISM CW Applications Based on 100 V GaN Technology**

G. Formicone¹, J. Burger¹, J. Custer¹, G. Bosi², A. Raffo², G. Vannini², ¹Integra Technologies, Inc., El Segundo, United States, ²University of Ferrara, Ferrara, Italy

EuMIC03-05 **Characterization of a High Power GaN Device for Class E PA Design with Non-Sinusoidal Stimulus**

V. Camarchia¹, E. Cipriani², P. Colantonio², M. Pirola¹, R. Quaglia², L. Cabria¹, N. Ayllon⁵, ¹Politecnico di Torino, Turin, Italy, ²University of Rome Tor Vergata, Rome, Italy, ³Cardiff University, Cardiff, United Kingdom, ⁴TTI Norte, Santander, Spain, ⁵ESA-ESTEC, Keplerlaan, Netherlands



Rooms 7-9

EuMIC04

EuMIC Opening Session

Chair: Tom Brazil, EuMIC 2016 Chair

Co-Chair: Stepan Lucyszyn, EuMIC 2016 Co-Chair

11.20 – 11.40

Welcome Address

Opening of the European Microwave Integrated Circuits Conference 2016

Tom Brazil, EuMIC 2016 Chair

11.40 – 12.20

THz Transistors and On-Wafer Calibrations

Dylan Williams, National Institute of Standards and Technology, Boulder, CO, USA

Advances in microwave wafer probes and vector network analyzers have opened up a whole new world of discovery in microwave metrology, making possible accurate on-wafer measurements in printed transmission lines at microwave, millimetre-wave, sub-millimetre-wave, and even terahertz frequencies. Dr. Dylan Williams, winner of the 2013 IEEE Joseph F. Keithley Award in Instrumentation and Measurement and President Elect of the IEEE Microwave Theory and Techniques Society, will trace the history of on-wafer measurements, discuss the fundamental principles behind accurate on-wafer measurements, touch on important applications in transistor, device, and waveform measurement, and preview the bright future of a field that continues to grow in importance in electrical engineering.

12.20 – 13.00

MMICs – Custom or COTS?

Liam Devlin, Plextek RFI, Essex, UK

In recent years the availability of Commercial Off-The-Shelf (COTS) MMICs has increased significantly. Standard RF and microwave components addressing a wide range of functional blocks are now readily available, so it may seem unnecessary to consider developing custom MMICs. There are, however, occasions when a custom MMIC can be the best commercial option with the potential to offer cost savings, performance improvement, reduced component count, size reduction or even the means of implementing otherwise impractical functionality.

The speaker has many years of experience in developing both standard product and custom MMICs, and will draw on this to explain how to determine when a custom MMIC could be the best solution, illustrated with specific examples. He will then move on to describe the practicalities of using a commercial foundry to fabricate custom-designed MMICs, with guidelines on estimating unit cost and choosing the most appropriate foundry and process.

11:20 - 13:00

EuMIC Poster01 Session

Chair: Alaa Abunjaileh, Airbus Defence and Space

13:00 – 14:20

The posters are on display from 13:00 – 14:20

The authors are present for discussion from 13:00 – 14:20



Conference Centre	Conference Centre	Conference Centre	Conference Centre
<p>EuMIC Poster01-01 Integrated Microfluidic Channel with Wire-Bonded Structure Solenoid for Tuneable Inductor Application F. Banitorfian^{1,2}, A. Abd Manaf^{1,2}, F. Eshghabadi², N. Mohd Noh², M. Mustaffa², ¹Universiti Sains Malaysia (USM), Penang, Malaysia, ²Universiti Sains Malaysia (USM), Nibong Tebal, Malaysia</p>	<p>EuMIC Poster01-07 Load Pull Circles Analysis Method for Applying the Outphasing Technique in Power Amplifier Design Y. Jato-Llano¹, A. Herrera-Guardado¹, F. C. Huin², ¹University of Cantabria, Santander, Spain, ²ACCO Semiconductors Inc., Louveciennes, France</p>	<p>EuMIC Poster01-12 A Low-Cost 180 nm BiCMOS Technology with Horizontal Current Bipolar Transistor (HCBT) for Wireless Communication ICs J. Zilak¹, M. Koričić¹, H. Mochizuki², S. Morita², T. Suligoj¹, ¹University of Zagreb, Faculty of Electrical Engineering and Computing, Zagreb, Croatia, ²Asahi Kasei Microdevices Co., Nobeoka, Japan</p>	<p>EuMIC Poster01-18 A 49 to 64 GHz Frequency Doubler using Active CS-Based Gm-Boosted Technique in 90 nm CMOS Process G. Chen, H. Chang, Y. Liu, Y. Hsin, National Central University, Jhongli, Taiwan</p>
<p>EuMIC Poster01-02 Multi-Objective Optimization of Microwave Couplers using Corrected Domain Patching S. Koziel^{1,2}, A. Bekasiewicz^{1,2}, ¹Reykjavik University, Reykjavik, Iceland, ²Gdansk University of Technology, Gdansk, Poland</p>	<p>EuMIC Poster01-08 Common-Denominator Modelling for Stability Analysis of Electronic Circuits A. Cooman¹, F. Ferranti¹, Y. Rolain¹, G. Vandersteen¹, E. Louaroudi², ¹Vrije Universiteit Brussel, Brussels, Belgium, ²University of Antwerp, Hoboken, Belgium</p>	<p>EuMIC Poster01-13 A K-Band High-Gain Down-Converter Mixer using Cross Couple Pair Active Load Y. Chang, H. Wu, H. Lu, National Taiwan University, Taipei, Taiwan</p>	<p>EuMIC Poster01-19 Miniature Fully-Integrated 2.5 and 3.5 GHz LDMOS Power Amplifiers in 40-nm CMOS Technology M. Wu, T. Chang, J. Cheng, J. Tsai, T. Huang, National Taiwan Normal University, Taipei, Taiwan</p>
<p>EuMIC Poster01-03 Effects of Buffer Leakage Current on Breakdown Characteristics in AlGaIn/GaN HEMTs with a High-k Passivation Layer Y. Satoh, H. Hanawa, K. Horio, Shibaaura Institute of Technology, Saitama, Japan</p>	<p>EuMIC Poster01-09 Accurate FEM-based nMOS Switch Modelling Technique for RF Applications F. Gacim¹, P. Descamps², N. Jourdan³, ¹NXP Semiconductors / LAMIPS, Caen, France, ²LAMIPS, Commun Laboratory NXP-CRISMAT, Caen, France, ³NXP Semiconductors, Caen, France</p>	<p>EuMIC Poster01-14 A 6-46 GHz, High Output Power Distributed Frequency Doubler using Stacked FETs in 0.25um GaAs pHEMT T. Nguyen¹, A. Pham¹, K. Fujii², ¹University of California, Davis, Davis, United States, ²MACOM Technology Solutions, Santa Clara, United States</p>	<p>EuMIC Poster01-20 NARMA Based Novel Closed Loop Digital Predistortion using Penrose-Moore Inverse Technique M. Deepak Nair, R. Giofre, P. Colantonio, F. Giannini, University of Roma Tor Vergata, Roma, Italy</p>
<p>EuMIC Poster01-04 Nonlinear GaAs pHEMT Model with Trapping Effect for Small-Signal and Dynamic Large-Signal Design A. Olomo, Infineon, Linz, Austria</p>	<p>EuMIC Poster01-10 A New Current Dependent Gate Charge Model for GaN HFET Devices J. G. Leckey, MACOM Technology Solutions, Belfast, United Kingdom</p>	<p>EuMIC Poster01-15 Results from a Prototype 6GSps Digital-to-Analogue Converter with Greater than 7 GHz Analogue Bandwidth A. Glascott-Jones, M. Stackler, N. Chantier, R. Pilard, e2v, St Egreve, France</p>	<p>EuMIC Poster01-21 A 21 dBm 60 GHz SiGe Power Amplifier using Modified Wilkinson Combiner R. Ben Yishay, D. Elad, IBM Haifa Research Lab, Haifa, Israel</p>
<p>EuMIC Poster01-05 A Surface Potential Large Signal Model for AlGaIn/GaN HEMTs Q. Wu, Y. Xu, C. Wang, Z. Wen, R. Xu, University of Electronic Science and Technology of China, Chengdu, China</p>	<p>EuMIC Poster01-11 Controlling the Characteristics of Nanomechanical Resonators A. Y. Nimets^{1,2}, K. Schuenemann¹, D. M. Vavriv², ¹Technical University Hamburg-Harburg, Hamburg, Germany, ²Institute of Radio Astronomy of NASU, Kharkov, Ukraine</p>	<p>EuMIC Poster01-16 0.61 THz Radiating Source with On-Chip Antenna on 65nm CMOS B. Khamaisi, S. Jameson, E. Socher, Tel-Aviv University, Tel-Aviv, Israel</p>	<p>EuMIC Poster01-22 High Linearity Fully Integrated Class-O Power Amplifier in Standard 65 nm CMOS Technology M. Wei, R. Negra, RWTH Aachen University, Aachen, Germany</p>
<p>EuMIC Poster01-06 Characterization and Modelling of 40 nm mHEMT Process up to 110 GHz R. Cleriti¹, W. Ciccognani¹, S. Colangeli¹, E. Limiti¹, P. Frijlink², M. Renvoisé², ¹Università degli Studi di Roma Tor Vergata, Roma, Italy, ²Ommic, Cedex Limeil-Brvannes, France</p>	<p>EuMIC Poster01-17 A 154-165 GHz LNA and Receiver in CMOS 65 nm Technology J. Elkind, E. Socher, Tel-Aviv University, Tel-Aviv, Israel</p>		



Room 7

Room 8

EuMIC05

GaN Devices

Chair: Frank E. van Vliet, TNO
Co-Chair: Didier Floriot, UMS

EuMIC06

Millimetre-Wave Low Noise Amplifiers

Chair: Manfred Berroth, Universität Stuttgart
Co-Chair: Didier Belot, CEA-LETI

EuMIC05-01

Quest for Vacuum Tubes' Replacement: 150V UHF GaN Radar Transistors

G. Fomicone, J. Burger, J. Custer, J. Walker, Integra Technologies, inc., El Segundo, United States

EuMIC06-01

A Low Power High Gain Bandwidth E-Band LNA

K. Hadipour Abkenar^{1,2}, A. Stelzer², ¹DICE GmbH & Co KG, Linz, Austria, ²Johannes Kepler University, Linz, Austria

14:20 - 14:40

EuMIC05-02

Enhancement-Mode AlGaIn/GaN FinFETs with High On/Off Performance in 100 nm Gate Length

E. Ture¹, P. Brückner¹, M. Alsharef², R. Granzner², F. Schwierz², R. Quay¹, O. Ambacher¹, ¹Fraunhofer Institute for Applied Solid State Physics (IAF), Freiburg, Germany, ²Ilmenau University of Technology, Ilmenau, Germany

EuMIC06-02

150 GHz GaAs Amplifiers in Commercially Available 0.1- μ m GaAs PHEMT Process

A. Bessemoulin¹, M. C. Rodriguez¹, S. J. Mahon¹, A. E. Parker², M. C. Heimlich², ¹MACOM, Sydney, Australia, ²Macquarie University, Sydney, Australia

14:40 - 15:00

EuMIC05-03

Normally-Off AlGaIn/GaN Recessed MOS-HEMTs on Normally-on Epitaxial Structures for Microwave Power Applications

L. Trinh Xuan^{1,2}, R. Aubry¹, N. Michel¹, O. Patard¹, J. Jacquet¹, S. Piotrowicz¹, M. Oualli¹, P. Gamarra¹, C. Potier¹, D. Lancereau¹, S. L. Delage¹, S. Laurent², P. Bouysse², R. Quéré², ¹III-V Lab, Palaiseau, France, ²University of Limoges, Limoges, France

EuMIC06-03

Cryogenic Broadband Q-Band MMIC Low-Noise Amplifier

J. Teran Collantes, L. de la Fuente, B. Aja, E. Artal, University of Cantabria, Santander, Spain

15:00 - 15:20

EuMIC05-04

InAl(Ga)N/GaN/SiC Devices Delivering 5W/mm Output Power at 30 GHz

S. Piotrowicz, R. Aubry, E. Chartier, C. Dua, P. Gamarra, J. Jacquet, O. Jardel, C. Lacam, N. Michel, M. Oualli, O. Patard, C. Potier, S. L. Delage, III-V Lab, Palaiseau, France

EuMIC06-04

Cryogenic Low Noise MMIC Amplifiers for U-Band (40-60 GHz)

L. Sarnoska¹, A. Fung¹, P. Kangaslahti¹, R. Gawande¹, M. Soria¹, C. Lawrence¹, T. Gaier¹, M. Varonen², D. Cuadrado-Calle³, D. George³, G. Fuller³, R. Lai³, S. Sarkozy⁴, K. Cleary⁵, ¹Jet Propulsion Laboratory, Pasadena, United States, ²Aalto University, Aalto, Finland, ³University of Manchester, Manchester, United Kingdom, ⁴Northrop Grumman Corporation, Redondo Beach, United States, ⁵California Institute of Technology, Pasadena, United States

15:20 - 15:40

15:40 - 16:00



	Room 9	Room 10
	<p>EuMIC07 Millimetre-Wave and THz Transceiver Components Chair: Hwei Wang, National Taiwan University Co-Chair: Mehmet Kaynak, IHP</p>	<p>EuMIC08 CMOS Based Transceiver Components Chair: Eric Tournier, University of Toulouse - LAAS/CNRS Co-Chair: Norihau Suematsu, Tohoku University</p>
14:20 - 14:40	<p>EuMIC07-01 600 GHz Resistive Mixer S-MMICs with Integrated Multiplier-by-Six in 35 nm mHEMT Technology R. Weber¹, U. J. Lewark², A. Tessmann¹, H. Massler¹, A. Leuther¹, ¹Fraunhofer-Institute for Applied Solid State Physics (IAF), Freiburg, Germany, ²IMST GmbH, Kamp-Lintfort, Germany</p>	<p>EuMIC08-01 Optical Receiver Amplifier with Adaptive Power and Bandwidth for up to 30 Gbit/s in 28 nm CMOS L. Szilagyi, D. Schoeniger, R. Henker, F. Ellinger, Technische Universität Dresden, Dresden, Germany</p>
14:40 - 15:00	<p>EuMIC07-02 Balanced G-Band Gm-Boosted Frequency Doublers in Transferred Substrate InP HBT Technology T. K. Johansen^{1,1}, A. Thualfigar^{2,2}, N. Weimann^{2,2}, W. Heinrich^{2,2}, V. Krozer^{2,2}, ¹Technical University of Denmark, Kgs. Lyngby, Denmark, ²Ferdinand-Braun-Institut, Berlin, Germany</p>	<p>EuMIC08-02 Integrated Dual-Band Transmitter for Vital Sign Detection Radar Applications in 0.18-um CMOS J. Cheng, Y. Lin, W. Lin, J. Tsai, T. Huang, H. Wang, National Taiwan Normal University, Taipei, Taiwan</p>
15:00 - 15:20	<p>EuMIC07-03 Ku-Band to F-Band Active Multiplier Chain in 65-nm CMOS B. Khamaisi, E. Socher, Tel-Aviv University, Tel-Aviv, Israel</p>	<p>EuMIC08-03 Non-Invasive Highly Integrated Transformer Power Detector for Self-Healing PA in 130nm H9SOI-FEM CMOS Technology B. Moret^{1,2}, E. Kerhervé¹, V. Knopik², ¹University of Bordeaux, IMS Laboratory, Talence, France, ²STMicroelectronics, Crolles, France</p>
15:20 - 15:40	<p>EuMIC07-04 A 0.58-0.61 THz Single On-Chip Antenna Transceiver Based on Active x30 LO Chain on 65nm CMOS B. Khamaisi, S. Jameson, E. Socher, Tel-Aviv University, Tel-Aviv, Israel</p>	<p>EuMIC08-04 A 4-Bit Broadband CMOS Phase Shifter using Magnetically Coupled All-Pass Networks J. Huang, H. Li, J. Fu, National Central University, Zhongli, Taiwan</p>
15:40 - 16:00	<p>EuMIC07-05 A 230 GHz Quadrupler with 2 dBm Output Power in 90 nm SiGe BiCMOS Technology R. Ben Yishay, D. Elad, IBM Haifa Research Lab, Haifa, Israel</p>	<p>EuMIC08-05 MOSFET Divide-by-Four Frequency Divider with Injection Locking at Main-Gate and Back-Gate J. Wu, C. Tu, S. Chen, L. Tung, National Chung Cheng University, Chia-Yi, Taiwan</p>



Room 11

Room 12

EuMIC09

Doherty and Envelope Tracking Amplifier Solutions

Chair: Paolo Colantonio, University of Rome Tor Vergata

Co-Chair: Marc van Heijningen, TNO

EuMIC10

Modelling of Thermal and Trapping Effects in HEMTs

Chair: Thomas Brazil, University College Dublin

Co-Chair: Christopher Duff, The University of Manchester

EuMIC09-01

All Gallium Nitride Envelope Tracking Multiband Power Amplifier using 200 MHz Switching Buck-Converter

T. Fujiwara¹, K. Mukai¹, H. Nakamizo¹, S. Shinjo¹, J. J. Yan², H. Gheid², P. Asbeck³,
¹Mitsubishi Electric Corporation, Kamakura, Japan, ²MaXentric Technologies, LLC, San Diego, United States, ³University of California, San Diego, San Diego, United States

EuMIC10-01

Thermal Analysis of AlN/GaN/AlGaIn HEMTs grown on Si and SiC Substrate through TCAD Simulations and Measurements

A. Sahoo¹, N. Subramani¹, J. Nallatamby¹, R. Sommet¹, R. Quere¹, N. Rolland², F. Medjdoub², ¹University of Limoges, Brive-La_Gaillarde, France, ²University of Lille, Villeneuve d'Ascq, France

14:20 - 14:40

EuMIC09-02

Optimized Peaking Amplifier of Doherty Amplifier using an Inductive Input Second Harmonic Load

S. Kim, J. Lee, K. Moon, Y. Park, D. Minn, B. Kim, Pohang University of Science and Technology, Pohang, Republic of Korea

EuMIC10-02

Anomaly and Intrinsic Capacitance Behaviour over Temperature of AlGaIn/GaN/SiC and AlGaAs/GaAs HEMTs for Microwave Applications

M. A. Alim^{1,3}, A. A. Rezazadeh¹, C. Gaquiere²,
¹University of Manchester, Manchester, United Kingdom, ²University of Lille, Lille, France, ³University of Chittagong, Chittagong, Bangladesh

14:40 - 15:00

EuMIC09-03

A Design Approach to Mitigate the Phase Distortion in GaN MMIC Doherty Power Amplifiers

R. Giofre, P. Colantonio, F. Giannini, University of Roma Tor Vergata, Roma, Italy

EuMIC10-03

Characterization and Modeling of Traps and RF Frequency Dispersion in AlGaIn/AlN/GaN HEMTs

H. Sánchez-Martín¹, O. García-Pérez², I. Íñiguez-de-la-Torre¹, S. Pérez¹, T. González¹, J. Mateos¹, P. Altuntas², N. Defrance², M. Lesecc², V. Hoel², Y. Cordier³, S. Rennesson³, ¹University of Salamanca, Salamanca, Spain, ²IEMN, Villeneuve d'Ascq, France, ³CHREA, Valbonne, France

15:00 - 15:20

EuMIC09-04

Novel Output Combiner for Three-Way Doherty Power Amplifiers

R. Lehna, A. Bangert, University of Kassel, Kassel, Germany

EuMIC10-04

Novel Approach to Trapping Effect Modeling based on Chalmers Model and Pulsed S-Parameter Measurements

P. Luo^{1,2}, O. Bengtsson¹, M. Rudolph²,
¹Ferdinand-Braun-Institut, Leibniz-Institut für Höchstfrequenztechnik, Berlin, Germany, ²Brandenburgische Technische Universität Cottbus-Senftenberg, Cottbus, Germany

15:20 - 15:40

EuMIC09-05

Optimization of Idle Current in Envelope Tracking Power Amplifier for Efficiency and Linearity

K. Moon, Y. Cho, J. Kim, B. Park, H. Jin, J. Shin, B. Kim, Pohang University of Science and Technology, Pohang, Republic of Korea

EuMIC10-05

Characterization of Trapping in a GaN HEMT by Performing Isothermal Three-Stage Pulse Measurements

S. Albahrani¹, A. Parker¹, B. Schwitter²,
¹Macquarie University, Sydney, Australia, ²MACOM Technology Solutions, Sydney, Australia

15:40 - 16:00



Room 7

Room 8

EuMIC11

Graphene & III-V Devices

Chair: Giovanni Ghione, Politecnico di Torino, DET
Co-Chair: Ingmar Kallfass, University of Stuttgart

EuMIC12

Millimetre-Wave Transceiver Components

Chair: Roei Ben Yishay, IBM Haifa Research Lab
Co-Chair: Herbert Zirath, Chalmers University

16:40 - 17:00

EuMIC11-01
Graphene Field Effect Transistors on Flexible Substrate: Stable Process and High RF Performance

W. Wei¹, E. Pallecchi¹, M. Belhaj¹, A. Centeno^{2,2}, B. Alonso^{2,2}, A. Zurutuza^{2,2}, H. Happy¹,
¹Institute of Electronics, Microelectronics and Nanotechnology, (IEMN), Villeneuve d'Ascq, France, ²Graphenea, Donostia, Spain

EuMIC12-01
A Wideband Fully Integrated SiGe Chipset for High Data Rate Communication at 240 GHz

N. Sarmah¹, P. R. Vazquez¹, J. Grzyb¹, W. Foerster¹, B. Heinemann², U. R. Pfeiffer¹,
¹University of Wuppertal, Wuppertal, Germany, ²IHP GmbH, Im Technologiepark 25, Germany

17:00 - 17:20

EuMIC11-02
Monolithic Integration of Vertical-Oriented Schottky Diode using 0.5 x 200 um² GaAs pHEMT for Microwave Limiter Applications

N. Haris^{1,1}, P. B. Kyabaggu^{2,2}, A. A. Reza zadeh^{1,1},
¹University of Manchester, Manchester, United Kingdom, ²Bukoola General Enterprises, Kampala, Uganda

EuMIC12-02
A 275 GHz Amplifier in 0.13um SiGe

S. Malz¹, P. Hillger¹, B. Heinemann², U. Pfeiffer¹,
¹Bergische Universität Wuppertal, Wuppertal, Germany, ²IHP Microelectronics, Frankfurt (Oder), Germany

17:20 - 17:40

EuMIC11-03
High-Performance Self-Aligned InAs MOSFETs with L-Shaped Ni-Epilayer Alloyed Source/Drain Contact for Future Low-Power RF Applications

M. Ridaoui², M. Pastorek¹, A. F. Bruno-Djomkam¹, N. Wichmann¹, S. Bollaert¹, A. Jaouad², H. Maher²,
¹IEMN, CNRS UMR 8520, Université de Lille 1, Villeneuve d'Ascq, France, ²LN2 CNRS UMI 3463, 3IT, Sherbrooke, Canada

EuMIC12-03
A 280 GHz Stacked-FET Power Amplifier Cell using 50 nm Metamorphic HEMT Technology

A. Amado Rey¹, Y. Campos Roca², C. Friesicke¹, A. Tessmann¹, R. Lozar¹, S. Wagner¹, A. Leuther¹, M. Schlechtweg¹, O. Ambacher¹,
¹Fraunhofer IAF, Freiburg im Breisgau, Germany, ²University of Extremadura, Caceres, Spain

10:00 - 10:20

EuMIC11-04
Frequency Limitations of the Nitride and Arsenide HEMTs

Y. V. Fedorov, S. V. Mikhaylovich, Institute of Ultra-High Frequency Semiconductor Electronics of RAS, Moscow, Russian Federation

EuMIC12-04
A 300-GHz 64-QAM CMOS Transmitter with 21-Gb/s Maximum Per-Channel Data Rate

K. Takano, K. Katayama, S. Amakawa, T. Yoshida, M. Fujishima, Hiroshima University, Higashihiroshima, Japan

17:40 - 18:00

MONDAY

MONDAY



Room 10

Room 11

Room 12

EuMIC13

VCOs and Synthesizers

Chair: Georg Böck, TU Berlin
Co-Chair: Eric Tournier, University of Toulouse - LAAS/CNRS

EuMIC14

GaN Power Amplifiers

Chair: Frank van den Bogaart, TNO
Co-Chair: Ernesto Limiti, University of Rome Tor Vergata

EuMIC15

Device Modelling of Microwave FETs

Chair: Teresa M. Martin-Guerrero, Universidad de Malaga
Co-Chair: Jean-Christophe Nallatamby, University of Limoges

EuMIC13-01

A 2-GHz-band Low-Phase-Noise VCO IC with an LC Bias Circuit in 180-nm CMOS

X. Xu, X. Yang, T. Yoshimasu, Waseda University, Kitakyushu-shi, Japan

EuMIC14-01

A 1-8 GHz Gallium Nitride Distributed Power Amplifier MMIC Utilizing a Trifilar Transformer

C. F. Campbell, M. D. Roberg, J. Fain, S. Nayak, Qorvo, Richardson, United States

EuMIC15-01

Physics-Based Modeling of FinFET RF Variability

A. M. Bughio, S. Donati Guerrieri, F. Bonani, G. Ghione, Politecnico di Torino, Torino, Italy

16:40 - 17:00

EuMIC13-02

A Ka-Band BiCMOS LC-VCO with Wide Tuning Range and Low Phase Noise using Switched Coupled Inductors

M. J. Kucharski¹, F. Herzel¹, H. J. Ng¹, D. Kissinger^{1,2}, ¹IHP, Frankfurt (Oder), Germany, ²Technische Universität Berlin, Berlin, Germany

EuMIC14-02

Stability Analysis and Demonstration of an X-band GaN Power Amplifier MMIC

M. van Heijningen¹, P. de Hek¹, F. E. van Vliet¹, S. Dellier², ¹TNO, Den Haag, Netherlands, ²AMCAD Engineering, Limoges, France

EuMIC15-02

Dual-Gate HEMT Parameter Extraction Based on 2.5D Multiport Simulation of Passive Structures

F. van Raay, R. Quay, D. Schwantuschke, Fraunhofer Inst. for Applied Solid-State Physics (IAF), Freiburg, Germany

17:00 - 17:20

EuMIC13-03

Wideband High-Linearity Low-Phase-Noise VCO for Space Communication Systems

L. Pantoli¹, L. Di Muccio¹, G. Leuzzi¹, A. Barigelli², F. Vitulli², ¹University of L'Aquila, L'Aquila, Italy, ²Thales Alenia Space, Rome, Italy

EuMIC14-03

A Miniature 70 W quasi-MMIC PA Block Suitable for Highly Integrated X-band Pulsed SSPA Schemes

D. Resca, F. Scappaviva, MEC srl, Bologna, Italy

EuMIC15-03

On the Modeling of High Power FET Transistors

I. Angelov, M. Thorsell, M. Gavel, O. Barrera, Chalmers University of Technology, Goteborg, Sweden

17:20 - 17:40

EuMIC13-04

A 17.5-22.5 GHz Fractional-N Wideband Frequency Synthesizer in 65 nm CMOS Technology

K. Giannakidis¹, S. Sgourenas¹, A. Kanteres¹, G. Kalivas¹, K. Moustakas², S. Siskos², ¹University of Patras, Patras, Greece, ²Aristotle University of Thessaloniki, Thessaloniki, Greece

EuMIC14-04

Compact Package of 8x8mm, Broadband, Two-stage GaN Power Amplifier

S. Inoue, K. Ebihara, Sumitomo Electric Device Innovations Inc., Yokohama, Japan

EuMIC15-04

Development and Verification of a Scalable GaAs pHEMT FEM Thermal Model

B. K. Schwitter¹, A. P. Fattorini¹, S. J. Mahon¹, A. E. Parker², M. C. Heimlich², ¹MACOM, North Sydney, Australia, ²Macquarie University, North Ryde, Australia

10:00 - 10:20

EuMIC13-05

A -194.0dBc/Hz FoM CMOS Tail-Filtering VCO using Helium-3 Ion Irradiation Technique

H. Liu¹, N. Li¹, A. Narayanan¹, T. Siriburanon¹, T. Inoue², H. Sakane², T. Hirano¹, K. Okada¹, A. Matsuzawa¹, ¹Tokyo Institute of Technology, Tokyo, Japan, ²S.H.I.Examination & Inspection, Ltd., Ehime, Japan

EuMIC14-05

Internally-Packaged-Matched Continuous-Inverse Class-FI Wideband GaN HPA

V. Carrubba^{1,2}, S. Maroldt¹, E. Ture¹, U. Udeh¹, M. Musser¹, W. Bronner¹, R. Quay¹, O. Ambacher¹, ¹Fraunhofer IAF, Freiburg, Germany, ²Ericsson AB, Kista, Sweden

EuMIC15-05

An EM-based Approach to Model a Gallium Nitride HEMT in a Custom Common-Gate Configuration

R. Giofre, S. Colangeli, W. Ciccognani, E. Limiti, University of Roma Tor Vergata, Roma, Italy

17:40 - 18:00