INMMIC Aveiro

8-10 NOVEMBER 2023

IEEE MTT-S GAAS EuMA

Wednesday, 8th November

8:00 – 9:00		**Registration**
9:00 – 10:20	**Session WeA1** Opening Session	Industry Keynote Talk Dr. Shi Cheng from Huawei Technologies
10:20 – 10:50		**Coffee Break**
10:50 – 12:10	**Session WeA2 – Signal Generation and Frequency Conversion Circuits**	
10:50 – 11:10	**A New Method for Oscillator Analysis** S. Maas	
11:10 – 11:30	**On the Design and Characterization Procedure of 300-GHz Slotline-Coupled Oscillators in CMOS** M. Ferreras and J. Grajal	
11:30 – 11:50	**A W-Band Frequency Tripler in a 60 nm GaN HEMT Technology** F. Strömbeck, H. Zirath, and D. Kuylenstierna	
11:50 – 12:10	**High-Efficiency Ka-Band Active Frequency Doubler MMIC in 150 nm GaN/SiC HEMT Technology** R. Vissers, H. Zirath, and G. Lasser	
12:10 – 13:40		**Lunch Break**
13:40 – 15:00	**Session WeB1 – Millimetre-Wave Power Amplifiers MMICs**	
13:40 – 14:00	**Ka-Band 12W Asymmetric Doherty PA GaN MMIC** G. Collins	
14:00 – 14:20	**A Ka-Band MMIC Power Amplifier in 100-nm GaN-On-Si Technology for Space Applications** C. Ramella, C. Florian, M. R. G. González, I. Davies, M. Pirola, and P. Colantonio	
14:20 – 14:40	**A Stacked Doherty Power Amplifier for Ka-Band Space Applications** S. Furxhi, R. Giofrè, P. Colantonio, V. Camarchia, A. Piacibello	
14:40 – 15:00		
15:00 – 15:30		**Coffee Break**
15:30 – 16:50	**Session WeB2 – Envelope Tracking and Energy Harvesting Techniques**	
15:30 – 15:50	**An Envelope Tracking oriented, 17-20GHz, Average 64QAM Modulated 2W, PAE>37%, OBO 8dB GaN MMIC Power Amplifier.** A. Rifi, C. Hallepee, M. Ayad, G. Neveux, and D. Barataud	
15:50 – 16:10	**Enhancement of Power-Added Efficiency in GaAs Power Amplifiers by Dynamic Gate Biasing** G. Kaval, G. Lasser, M. Gavell, and C. Fager	
16:10 – 16:30	**Load-Invariant Double Class-E/F2 Resonant Topology for UHF DC-DC Power Conversion** D. V. Bayer, J. R. P. Cisneros, M. N. R. Lavín, M. Oti, and J. A. García	
16:30 – 16:50	**Low-Input-Power Sub-GHz RF Energy Harvester for Powering Ultra-Low-Power Devices** J. A. Aguilar, M. Wei, F. Hutu, G. Villemaud, M. Gautier, O. Berder, and R. Negra	
19:00		**Young Professional Activity (all attendees are invited)**

Thursday, 9th November

Session ThA1 – Power Amplifier Theory and Analysis

9:00 – 10:20

9:00 – 9:20	**Estimation and Sensitivity of Average Efficiency of RF PAs Under Modulated Signal Stimulus** F. M. Barradas, L. Nunes, and J. Pedro
9:20 – 9:40	**An Envelope Model for Efficient Prediction of the Impact of Wideband Signals on Power Amplifier Performance** I. Heuvel, R. Quaglia, S. Cripps, and P. J. Tasker
9:40 – 10:00	**Dual-Input Mixed-Mode Doherty-Outphasing Power Amplifier** I. C Lopes, L. Nunes, P. Cabral, and J. Pedro
10:00 – 10:20	**Self-Conduction of the Auxiliar Amplifiers in Load-Modulation Based PAs** L. Nunes, F. M. Barradas, and J. Pedro

10:20 – 10:50 **Coffee Break**

Session ThA2 – Power Amplifier Design Techniques

10:50 – 12:10

10:50 – 11:10	**Symmetrical Doherty Power Amplifier with High Efficiency and Extended Bandwidth** H. Zhou, H. Chang, and C. Fager
11:10 – 11:30	**Design and Validation of a Concurrent Dual-Band 1.84/2.65 GHz GaN Doherty Power Amplifier** J. R. Haider, H. Zhou, R. Hou, C. Fager, and P. Saad
11:30 – 11:50	**Assessment of the Performance of Inverse Class-F Power Amplifiers in a Discrete Doherty Architecture** A. Piacibello, Z. Zhang, and V. Camarchia
11:50 – 12:10	**Experimental Investigation on Class-E and Class-F-1 Operation Under Square-Waveform Excitation** G. Bosi, A. Raffo, R. Giofrè, V. Vadalà, G. Crupi, P. Colantonio, and G. Vannini

12:10 – 13:40 **Lunch Break**

Session ThB1 – Behavioural and System-Level Modelling

13:40 – 15:20

13:40 – 14:00	**Industry Applications of Behavioral Models in Wireless System Design** J. Wood
14:00 – 14:20	**Digital Shaping and Linearization of a Dual-Input Load-Modulated Balanced Amplifier** W. Li, W. Thompson, K. Chuang, G. Montoro, and P. Gilabert
14:20 – 14:40	**Effects and Modeling of GaN PA Distortion in TDD Mode Using 5G NR Signal** J. P. Aikio, J. Toivanen, T. Kolmonen, A. Brihuega, A. Pärssinen, and T. Rahkonen
14:40 – 15:00	**Cardiff Behavioral Model from Passive Load-Pull While Enforcing S-Parameter** J. Louro, F. M. Barradas, L. Nunes, and J. Pedro
15:00 – 15:20	**Implementation Efficiency Comparison Between ANN and the Cardiff Model in ADS** W. Yuan, M. Tian, and J. Joseph W. Bell

15:20 – 15:50 **Coffee Break**

15:50 **Moliceiro Tour**

19:00 **Gala Dinner (at Aliança Underground Museum)**

Friday, 10th November

Session FrA1 – Physics-Based Modelling

9:00 – 10:20

9:00 – 9:20	**A New Vision of the Role Played by Buffer Dopants on the Operation of AlGaN/GaN HEMTs** A. S. Alavijeh, J. L. Gomes, L. Nunes, and J. Pedro
9:20 – 9:40	**TCAD Analysis of GaN HEMT Output Conductance Through Trap Rate Equation Green's Functions** E. Catoggio, S. D. Guerrieri, and F. Bonani
9:40 – 10:00	**From 2D TCAD Model to a Physical 1D Equivalent Circuit Model for a GaN HEMT** L. Nunes and J. Pedro
10:00 – 10:20	**Internal Reflections and Nonlinear Effects Interplay in Non-Ideal Josephson Travelling Wave Parametric Amplifiers** L. Fasolo, L. Oberto, L. Callegaro, and E. Enrico

10:20 – 10:50 **Coffee Break**

Session FrA2 – Device Modelling and Characterization

10:50 – 12:10

10:50 – 11:10	**Relaxation-Time Modeling for NQS Phenomena Characterization in High-Frequency Diodes** A. G.-Luque, T. M. M. Guerrero, and J. M. Contreras
11:10 – 11:30	**TCAD-Based Pseudo-Common-Gate X-PAR Model for GaAs Stacked Power Amplifier Design** C. Ramella, S. D.i Guerrieri, and M. Pirola
11:30 – 11:50	**RF GaN-HEMT Technology Evaluation Framework Based on Drain Current Transient Measurements** S. Cangini, G. P. Gibiino, A. M. Angelotti, M. Lorenzini, C. Florian, and A. Santarelli
11:50 – 12:10	**FET Characterization and Modeling Targeting Low-Noise W-Band Applications** A. Serino, S. Colangeli, W. Ciccognani, S. Swaroop S., S. Sharma, and E. Limiti

12:10 – 13:40 **Lunch Break**

Session FrB1 – Nonlinear Measurements and Calibration Techniques

13:40 – 15:00

13:40 – 14:00	**A Novel Fast Calibration Method for NVNAs Based Linearity Setup** J. A. S. Santos, T. Reveyrand, F. Gaillard, P. Medrel, J. M. Nebus, C. Chang, M. Prigent, and J. C. Nallatamby
14:00 – 14:20	**An Automatic Calibration Method for Vector Receiver Load Pull Systems** G. G. Santos, P. Cabral, L. Nunes, F. M. Barradas, D. R. Barros, C. F. Gonçalves, F. Purroy
14:20 – 14:40	**Characterization of Trap-Related Transient-Current Effects in AlGaN/GaN Nanochannels** H. S. Martín, I. I. Torre, J. Mateos, S. Pérez, T. González, L. Nunes, and J. Pedro
14:40 – 15:00	**Responsivity Measurements Up to 110 GHz Using AlGaN/GaN HEMTs with Different Gate Size** I. I. Torre, P. Artillan, G. Paz, E. Rochefeuille, T. González, and J. Mateos

15:00 – 15:30 **Coffee Break**

15:30 – 16:50 **Session FrB2**

Closing Session with the 3MT® Competition

Saturday, 11th November

Social Event

Visit to Porto City

Morning

Cruise in the Douro River to Visit the six bridges of Porto City

An unique port wine tasting in an iconic cellar of Porto City

Coffee Break

Afternoon

Panoramic tour in Porto City

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