

GigaHertz Symposium 5-6 March 2008 at Chalmers

Chalmers Conference Center (<http://conference.chalmrest.se/>)

Preliminary Programme 20 Dec 2007. Latest version on www.ghz2008.se

Wednesday 5 March 2008			
0900-1000 Registration and Coffee			
1000-1200 SESSION I Room: Runan, Chairman: Jan Grahn, Chalmers			
1000 Welcome Stefan Bengtsson Vice President, Chalmers			
1005 Plenary Intelligent Transmitter Technology for Next Generation Wireless Transceivers Larry Larson Univ. California San Diego			
1045 Invited RF/DSP co-designed power amplifiers/transmitters for advanced wireless and satellite applications Fadhel Ghannouchi Univ. Calgary			
1115 Tuneable technologies for agile microwave systems S. Gevorgian Chalmers, Ericsson			
Design and Verification of a GaN S-band high power amplifier J. Nilsson Saab Microwave Systems			
Self-Oscillating RF amplifiers P. Reynaert, W. Laflere, M. Steyaert, J. Craninckx KU Leuven, IMEC, Leuven			
1200-1300 Lunch and Exhibition			
1300-1500 Workshops Wednesday 5 March 2008			
Agile Microwave Systems Room: TBA Moderator: Hans-Olof Vickes Saab Microwave Systems	RF Power Amplifiers (1) Room: TBA Moderator: Bo G. Berglund Ericsson	Microwave Components Room: TBA Moderator: Sven Mattisson Ericsson Mobile Platforms	THz Technology Room: TBA Moderator: Staffan Rudner Swedish Defence Research Agency - FOI
A method for switchable rejection filters N. Meissner Saab Avionics	The Frequency Spectrum of Bandpass Pulse Width Modulated Signals T. Blocher, P. Singerl, A. Wiesbauer, F. Dielacher Graz Univ., Infineon	Highly Integrated MMICs for mm-wave application H. Zirath, S.E. Gunnarsson, M. Ferndahl, R. Kozhuharov, C. Kärmfelt Chalmers, Ericsson	TBA
60 GHz $\lambda/8$ Phase-Shifter in EFTA Technology X. Rottenberg, P. Ekkels, B. Nauwelaers, W. De Raedt Imec, KU Leuven	Class M TM Power Amplifier Linearization D. E. Kelly PulseWave RF, Austin	An Ultra Wide Band LNA in 90 nm CMOS W. Ahmad, A. Axholt, H. Sjöland Lund Univ	
Tuneable Filters for Agile Microwave Systems A. Deleniv, S. Gevorgian Chalmers, Ericsson	Comparing Polar Transmitter Architectures using GaN HEMT Power Amplifier E. Cijvat, K. Tom, M. Faulkner, H. Sjöland Lund Univ., Victoria Univ., Melbourne	Flip Chip for High Frequency K. Boustedt Ericsson.	Novel 220 GHz Slot-Square Substrate Lens Feed Antenna Integrated on MMIC J. Svedin, S. Leijon, N. Wadefalk, S. Cherednichenko, B. Hansson, S. Gunnarsson, I. Kalfass, A. Leuther, A. Emrich FOI, Chalmers, Fraunhofer-IAF, Omnisys Instruments

Agile Microwave Systems (cont')	RF Power Amplifiers (1) (cont')	Microwave Components (cont')	THz Technology (cont')
Microwave MEMS activities at the Royal Institute of Technology J. Oberhammer, N. Somjit, M. Sterner, F. Saharil, S. Braun, G. Stemme KTH	Different Classes of Power Amplifiers using Si MESFET S. Azam, R. Jonsson, Q. Wahab Linköping Univ. FOI	Cryogenic X-band Low Noise Amplifiers N. Goia, M. Kelly, A. Malmros, N. Wadefalk, J. P. Starski Chalmers	Planar antennas for terahertz frequencies S. Cherednichenko Chalmers
Phase-Comparison Monopulse Direction Measurement Antenna Array for 6-18 GHz C. Johansson, T. Eriksson, J. Grabs, T. Windahl Saab Avitronics	A review of validation criteria for behavioral power amplifier models P. Landin, M. Isaksson, Univ. Gävle	Low-Noise Cryogenic Amplifier built using MMIC-like /TRL Technique O. Nyström, E. Sundin, D. Dochev, V. Desmaris, V. Vassilev, V. Belitsky Chalmers, Onsala Space Observatory	Geosynchronous Earth Orbit Atmospheric Sounder S. Andersson, J. Embretsen, A. Emrich, M. Ericson, M. Hjort, J. Riesbeck, C. Tegnander Omnisys Instruments
MEMS Phase Shifters for an Affordable Low-Power Ka-band Multifunctional ESA on a small UAV R. Malmkvist, C. Samulesson, A. Gustafsson, T. Boman, S. Björklund, B. Carlegrim, R. Erickson, T. Vähä-Heikkilä, P. Rantakari FOI, VTT	Modeling of dual-input power amplifiers T. Eriksson, C. Fager, H. Cao, A. Soltani, U. Gustavsson, H. Nemati, H. Zirath Chalmers	Small-Signal Modeling of Narrow bandgap InAs/AlSb HEMTs M. Malmkvist, E. Lefebvre, L. Desplanque, X. Wallart, G. Dambrine, S. Bollaert, J. Grahn Chalmers, IEMN Lille	Back-End Module Demonstrator for radio-astronomy applications J.L. Cano, B. Aja, E. Villa, L. de la Fuente, E. Artal Univ. Cantabria, Santander
An adjustable broadband MMIC equalizer U. Öhman Saab Avitronics	The potential of active load and source tuning on base station power amplifiers T. Lejon Ericsson	Low-Noise, High-Speed Strained Channel Silicon MOSFET Technology for RF-Applications B.G. Malm, J. Hällstedt, P.-E. Hellström, M. Östling Royal Institute of Technology	ALMA Band 5 (163-211 GHz) Sideband Separating Mixer B. Billade, I. Lapkin, A. Pavolotsky, R. Monje, J. kooi, V. Belitsky Chalmers, California Institute of Technology
Tunable Impedance Matching Network M. R. Rafique, T. A. Ohki, P. Linnér, A. Herr Chalmers	Design Consideration for Varactor-Based Dynamic Load Modulation Networks U. Gustavsson, B. Almgren, H. Nemati Ericsson, Chalmers	Wideband Microstrip 90° 3-dB Two-Branch Coupler with Minimum Amplitude and Phase Imbalance D. Wang, M. Li, A. Huynh, P. Håkansson, S. Gong Nanjing Electronic Equipment Institute, Linköping University	High Power Photonic MW/THz Generation Using UTC-PD B. Banik, J. Vukusic, H. Hjelmgren, H. Sunerud, A. Wiberg, J. Stake Chalmers
Coded OFDM in Hybrid Radio Over Fibre Links J.F. Miranda, M. Gidlund Univ. Gävle, Nera Networks	Comparative analysis of the complexity/accuracy tradeoff for power amplifier behavior models A. Tehrani, H. Cao, T. Eriksson, C. Fager Chalmers	An Ultra-Wideband Six-Port transceiver Covering from 3.1 to 4.8 GHz P. Håkansson, S. Gong Linköping Univ	Towards a THz Sideband Separating Subharmonic Schottky Mixer P. Sobis, J. Stake, A. Emrich Chalmers, Omnisys Instruments
Equivalent Circuit of Metamaterials with a Negative Permeability A. Rumberg, M. Bertho Univ. Stuttgart		Gated tunnel diode pulse generator M. Nilsson, M. Årelid, E. Lind, G. Astromskas, L.-E. Wernersson Lund Univ.	HIFAS: High-Performance full-custom Autocorrelation Spectrometer ASIC A. Emrich, S. Andersson, M. Hjort Omnisys Instruments

1500-1530 Coffee and Exhibition
1530-1730 SESSION II Room: Runan, Chairman: Piotr Starski, Chalmers
1530 Invited Extremely Low-Noise Amplification with Cryogenic FET's and HFET's: 1970-2006 (Where do we go from here?) Marian W. Pospieszalski National Radio Astronomy Observatory, Charlottesville, VA
1600
560 GHz f_r , f_{max} operation of a refractory emitter metal InP DHBT E. Lind, A.M. Crook, Z. Griffith, M.J. Rodwell Lund Univ., Univ. California Santa Barbara
Low phase-noise balanced Colpitt InGaP-GaAs HBT VCOs with wide frequency tuning range and small VCO-gain variation H. Zirath GHz Centre, Chalmers, Ericsson
Feasibility of Filter-Less RF Receiver Front-End S. Ahmad, N. Ahsan, A. Blad, R. Ramzan, T. Sundström, H. Johansson, J. Dabrowski, C. Svensson Linköping University
Small-Size 2-10 GHz Radar Receiver Si-RFIC H. Berg, H. Thieses, M. Hertz, F. Norling Saab Microwave Systems
High frequency, current tunable spin torque oscillators: experimental characterization S. Bonetti, J. Garcia, J. Persson, J. Åkerman Royal Institute of Technology
<i>N</i> -coupling the capacity of wireless communication using electromagnetic angular momentum B. Thidé Swedish Institute of Space Physics, Uppsala
1730-1800 Visit MC2, Chalmers
1900 (preliminary) Conference Dinner at Universeum (www.universeum.se)

Thursday 6 March 2008
0830- 1000 SESSION III Room: Runan, Chairman: Herbert Zirath, Chalmers
0830 Plenary The Next Wireless Wave is a Millimeter Wave Joy Laskar GeorgiaTech
0910 Invited High Frequency and Mixed Signal Design for Communication and Remote Sensing applications in advanced technologies Mehran Mokhtari Teledyne Scientific
0940
MMIC design at G-band (140-220 GHz) including a 220 GHz Single-Chip Receiver MMIC with Integrated Antenna S.E. Gunnarsson, N. Wadefalk, M. Abbasi, C. Kärnfelt, R. Kozhuharov, J. Svedin, B.M. Motlagh, B. Hansson, S. Cherednichenko, I. Angelov, D. Kuylenstierna, H. Zirath, S. Rudner, I. Kalfass, A. Leuther Chalmers, FOI, Ericsson, Fraunhofer-IAF
A Quad-Core 130-nm CMOS 57-64 GHz VCO V. P. Goluguri, J. Wernehag, H. Sjöland, N. Troedsson Cambridge Silicon Radio Sweden, Lund University
1000-1030 Coffee and Exhibition

1030-1200 SESSION IV Room: Runan, Chairman: Niklas Rorsman, Chalmers			
1030 Invited: GaN HEMT development for microwave power applications- Current status and trends Masaaki Kuzuhara Univ. Fukui			
1100			
Recent Advances in GaN HEMT Power Amplifier Technology for Telecommunication Applications R. Pengelly, S. Wood, D. Farrell, B. Pribble, J. Crescenzi Cree Inc., Central Coast Microwave Design, US			
Demonstrator of Class-S Power Amplifier A. Samulak, G. Fischer, R. Weigel Univ. Erlangen-Nürnberg, Alcatel-Lucent			
30/20 GHz Balanced Sub-harmonic MMIC Mixer for Space Applications D. Kleén, J. Thelberg Saab Space			
Water Vapour Radiometer for ALMA A. Emrich, M. Wannerbratt Omnisys Instruments			
1200-1300 Lunch and Exhibition			
1300-1430 Workshops Thursday 6 March 2008			
Antennas Room: TBA Moderator: Per Sjöstrand Saab Avionics	RF Power Amplifiers (2) Room: TBA Moderator: Johan Ståhl Saab Microwave Systems	Measurement - Modeling Room: TBA Moderator: Niclas Keskitalo Ericsson	The GHz Entrepreneur Room: TBA Moderator: Peter Wahlberg Microwave Road
Integrated Antennas for RF MEMS Routes A. Rydberg, S. Cheng, P. Hallbjörner, S. Ogden, K. Hjort Uppsala Univ., SP, Borås	Paving the road for integrated gallium nitride transceivers K. Andersson, M. Thorsell, N. Billström, J. Nilsson, J. Holmkvist, A-M. Andersson, M. Südow, M. Fagerlind, P.-Å. Nilsson, A. Malmros, H. Hjelmgren, N. Rorsman, GHz Centre, Chalmers, Saab	Model-Based Pre-distortion for Signal Generators C. Luque, N. Björnsell Univ. Gävle	On invitation only If you are interested in sharing your experiences in making business from microwave innovations, contact:
Microstrip patch antenna for wireless applications N.A. Touhami, B. Aja, A. Tazón, E. Artal Univ. Cantabria, Santander	Silicon-on-SiC hybrid substrate with low RF-losses and improved thermal performance J. Olsson, Ö. Vallin, D. Martin, L. Vestling, U. Smith, H. Norström Uppsala Univ., Infineon	A Comparison of Antenna Diversity Characterization Methods using Reverberation Chambers and Drive Tests D. Nyberg, M. Franzén, P.S. Kildal Chalmers, Bluetest AB	peter.wahlberg@microwaveroad.se or jan.grahn@chalmers.se
Small Microstrip Fractal Antenna for RFID Tag P. Enoksson, M. Rusu, A. Curutiu, H. Rahimi, C. Rusu Chalmers, Bucharest Univ., Bonn Univ., Imego	Output Power Density and Breakdown Voltage in Field-Plated Buried Gate Microwave SiC MESFETs P.Å. Nilsson, F. Allerstam, K. Andersson, M. Fagerlind, H. Hjelmgren, A. Malmros, M. Südow, E.Ö. Sveinbjörnsson, H. Zirath, N. Rorsman, Chalmers	Measuring Relative Receiver Sensitivity of Wireless Terminals in One Minute in a Reverberation Chamber M. Andersson, C. Orlenius, M. Franzén Bluetest AB	FFT Spectrometers A. Emrich, M. Krus, U. krus, C. Tegnander Omnisys Instruments

Antennas (cont')	RF Power Amplifiers (2) (cont')	Measurement-Modeling (cont')	The GHz Entrepreneur (cont')
Dual-band choke horn Eleven Feed A. Yasin, J. Yang, T. Östling Chalmers, Arkivator AB	CMOS for micro- and millimeter-wave power applications M. Ferndahl, H. Nemati, H. Zirath Chalmers	Modeling of SiGe HBT Operation in Extreme Temperature Environment P. Sakalas, M. Ramonas, M. Schroter, A. Kittlaus, H. Geisler, C. Jungemann, A. Shimukovitch Dresden Univ.; Semiconductor Physics Institute, Vilnius; SUSS Microtec, Bundeswehr Univ. Neubiberg; Univ. California San Diego	
Optimization of 200- 800 MHz Eleven Feed for Use in Reflector Antennas of GMRT Y.B. Karandikar, P.S. Kildal Chalmers	A Computational Load- Pull Investigation of Harmonic Loading Effects on AM-PM conversion O. Bengtsson, L. Vestling, J. Olsson Univ. Gävle	On-wafer network analyser uncertainty estimation J. Stenarson, K. Andersson, C. Fager, K. Yhland SP Borås, Chalmers	
Method for Circuit Based Optimization of Radiation Characteristics of Multi-port Antennas K. Karlsson, J. Carlsson SP Borås, Chalmers	Identification of Distortions in a RF Measurement System H. Cao, A. Soltani, C. Fager, T. Eriksson Chalmers	mm-wave device testing using wideband coplanar transitions E. Vila, B. Aja, L. de al Fuente, E. Artal Univ. Cantabria, Santander	
Circuit Monopole and Dipole Antennas for UWB Radio Utilizing a Flex-Rigid Structure M. Karlsson, S. Gong Linköping Univ.	Optimization of RF LDMOS transistors by TCAD simulations A. Kashif, T. Johansson, C. Svensson, T. Arnborg, Q. Wahab Linköping Univ., Infineon, FOI	High Efficiency using Optimized SOI Substrates L. Vestling, O. Bengtsson, K.-H. Eklund, J. Olsson Uppsala Univ., Univ. Gävle	
Design, Manufacture and Test of Eleven Feed for 1-13 GHz J. Yang, I. Karlsson, X. Chen, P.S. Kildal Chalmers		Spin Torque Oscillator Simulations and Circuit Design Y. Zhou, S. Srinivasan, J. Persson, J. Åkerman Royal Institute of Technology	
1430-1500 Coffee			
1500-1600 SESSION V Room: Runan, Chairman: Arne Alping, Ericsson			
1500 Invited Industrial aspects of 100 Gb/s optical communication Bengt-Erik Olsson Ericsson Research			
1530 All-Optical Waveform Sampling with TeraHertz Capacity M. Westlund, P.A. Andrekson, H. Sunnerud Chalmers, Picosolve Inc.			
High Speed 1.3 μm VCSELs for FTTH and RoF P. Westbergh, E. Söderberg, J.S. Gustavsson, P. Modh, A. Larsson, Z.Z. Zhang, J. Berggren, M. Hammar Chalmers, Royal Institute of Technology			
1600 Closing Remarks Jan Grahn, General Chairman GHz Symposium 2008 Henrik Sjöland, Lund University: Next GHz Symposium arranger			