

# GigaHertz 2003



Tuesday Nov 4, 2003

|       |                                                                                                        |                                                                                                                     |
|-------|--------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|
| 09.00 | Registration and Coffee                                                                                |                                                                                                                     |
| 10.00 | <b>Opening Ceremony</b><br>H. Frennberg, FOI                                                           |                                                                                                                     |
| 10.10 | <b>Session 1. Transmitter technology</b><br>Chairman: C.-G. Svensson, Saab Dynamics                    |                                                                                                                     |
|       | <b>Invited talk</b>                                                                                    |                                                                                                                     |
|       | Measurement, analysis, modelling, and digital predistortion of RF/microwave power amplifiers           | D. Rönnow, Racomna Research AB                                                                                      |
| 10.40 | Progress on SiC and GaN Microwave Power research at Thales                                             | E.Morvan, C.Dua, A.Kerlain, M.A.Poisson, R.Aubry, N.Caillas, S.Delage, C.Brylinski, Thales                          |
| 11.00 | An 1 GHz Class E LDMOS Power Amplifier,                                                                | A. Ådahl, Herbert Zirath, CTH                                                                                       |
| 11.20 | Design of a pulsed, 10 W, Ku-band solid-state amplifier for radar transmitters.                        | A.-M. Andersson, A. Fransson, G. Sällberg, C.-G. Svensson, Saab Bofors Dynamics                                     |
| 11.40 | Adaptive predistorter design for nonlinear high power amplifiers                                       | A. Behravan, T. Eriksson, A. Svensson, H. Zirath, CTH                                                               |
| 12.00 | <b>L u n c h</b>                                                                                       |                                                                                                                     |
| 13.00 | <b>Session 2. Microwave circuits and modelling</b><br>Chairman: M. Danestig, Acreo AB                  |                                                                                                                     |
|       | <b>Invited talk</b>                                                                                    |                                                                                                                     |
|       | High-frequency SiGe MMICs: an industrial perspective                                                   | Yinggang Li, Ericsson AB                                                                                            |
| 13.20 | 7.6-8.6GHz Agile Image Reject On-Chip Receiver Front-End For Adaptive X-Band Smart Skin Array Antennas | R. Malmquist, M. Alfredson, C. Samuelsson, T. Nilsson, I. Ferrer, A. Gustafsson, FOI                                |
| 13.40 | Cryogenic 1.5-4.5 GHz ultra low noise amplifier                                                        | N. Wadefalk, A. Mellberg, I. Angelov, E. Choumas, E. Kollberg, N. Rorsman, P. Starski, J. Stenarson, H. Zirath, CTH |
| 14.00 | An Ultra Broadband Upconverter Circuit                                                                 | A. Tengs, M. Forsberg, S. Johansson, J. Lingsten, EMW                                                               |
| 14.20 | Modelling and Simulation of Reconfigurable RF-Architectures in Multifunction Antenna Systems           | Mattias Alfredson, Tomas Boman, FOI                                                                                 |
| 14.40 | Sources of uncertainty in FET small-signal modeling                                                    | C. Fager, K. Andersson, P. Linnér, H. Zirath, CTH                                                                   |
| 15.00 | <b>Poster session</b><br>Chairman: S. Hagelin, FOI                                                     |                                                                                                                     |
| 16.30 | <b>Organized visits</b><br>SAAB, SECTRA, FLEXTRONICS, ENEA EPACT                                       |                                                                                                                     |
| 19.00 | <b>Dinner</b>                                                                                          |                                                                                                                     |

# GigaHertz 2003

Wednesday Nov 5, 2003

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|--------------|---------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|
| <b>08.30</b> | <b>Session 3. System aspects</b>                                                            |                                                                                                               |
|              | <b>Chairman: C. Svensson, LiU</b>                                                           |                                                                                                               |
|              | <b>Invited talk</b>                                                                         |                                                                                                               |
|              | Ultra high frequency ICs in HRL's HBT Technologies                                          | <i>M. Mokhtari, HRL-Laboratories</i>                                                                          |
| <b>09.00</b> | Low Power RadioTransmitter                                                                  | <i>J. Wernehag, Henrik Sjöland, LTH</i>                                                                       |
| <b>09.20</b> | OptCom - a 100 Gbit/s TDM transceiver demonstrator project                                  | <i>T. Swahn, T. Kjellberg, B.-E. Olsson, C. Kärfelt, U. Mattsson, J. Hallin, M. Andersson, H. Zirath, CTH</i> |
| <b>09.40</b> | Analogue 60 GHz MMICs based on 90 nm CMOS                                                   | <i>M. Ferndahl, A. Masud, B. Mahmoudian, H. Zirath, CTH</i>                                                   |
| <b>10.00</b> | SoCTriX - A 4G Radio Research Project - Status 2003                                         | <i>P. Blomqvist, P. Eriksson, M. Wågman, Acreo AB</i>                                                         |
| <b>10.20</b> | <b>Coffee</b>                                                                               |                                                                                                               |
|              | <b>Session 4. Mm- and sub-mm wave technology</b>                                            |                                                                                                               |
|              | <b>Chairman: J. Grahn, CTH</b>                                                              |                                                                                                               |
| <b>10.50</b> | 50-nm gate-length InP-based HEMTs for millimeterwave applications                           | <i>A. Mellberg, P.-Å. Nilsson, N. Rorsman, J. Grahn, H. Zirath, CTH</i>                                       |
| <b>11.10</b> | Heterostructure barrier varactor frequency triplers and quintuplers for THz electronics     | <i>A. Ø. Olsen, M. Ingvarson, E. Kollberg, J. Stake, CTH</i>                                                  |
| <b>11.30</b> | Slot antennas and quasioptical beam steering for cost-efficient integrated automotive radar | <i>D. Chouvaev, M. Danestig, Acreo AB</i>                                                                     |
| <b>11.50</b> | <b>Lunch</b>                                                                                |                                                                                                               |
| <b>12.50</b> | <b>Session 5. Emerging technologies</b>                                                     |                                                                                                               |
|              | <b>Chairman: J. Grahn, CTH</b>                                                              |                                                                                                               |
|              | Silicon Substrate Integrated Tuneable Ferroelectric Devices for Microwave Applications      | <i>S. Gevorgian, A. Vorobiev, D. Kuylenstierna, P. Rundqvist, S. Abadei</i>                                   |
| <b>13.10</b> | Novel Band-Pass Filter Utilizing S-shaped Slot Line Resonators                              | <i>A. Deleniv, A. Eriksson, A. Khalabuhov, CTH</i>                                                            |
| <b>13.30</b> | <b>Session 6. Packaging</b>                                                                 |                                                                                                               |
|              | <b>Chairman: A. Rydberg, UU</b>                                                             |                                                                                                               |
|              | LTCC and glob-top packaging for 24 GHz MMIC's with integrated antennas                      | <i>E. Öjefors, A. Rydberg, UU</i>                                                                             |
| <b>13.50</b> | Some aspects of modeling of dense high speed TL interconnects for printed boards            | <i>A. Koptioug, H. Hesselbom, Östersund University</i>                                                        |
| <b>14.10</b> | <b>Coffee</b>                                                                               |                                                                                                               |
| <b>14.40</b> | <b>Session 7</b>                                                                            |                                                                                                               |
|              | <b>Chairman: H. Frennberg, FOI</b>                                                          |                                                                                                               |
|              | <b>Invited talk</b>                                                                         |                                                                                                               |
|              | Can microwave exposure cause health effects?                                                | <i>K. Hansson Mild, National Institute of Working Life</i>                                                    |
| <b>15.10</b> | Presentation from HSEP                                                                      | <i>H. Zirath, CTH</i>                                                                                         |
| <b>15.30</b> | Presentation from Vinnova                                                                   | <i>S.-I. Ragnarsson, Vinnova</i>                                                                              |
| <b>15.50</b> | <b>Closing of the symposium</b>                                                             |                                                                                                               |
|              | <b>H. Frennberg, FOI</b>                                                                    |                                                                                                               |