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- ❖ MO3A : mm-Wave and THz
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- ❖ MO4A : Advanced Antenna Technology
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- ❖ WE3P : Joint RWW Interactive Poster Session: Transceivers and Front-end Technologies SOC and SiP
- ❖ WE4B : Wireless System Modelling
- ❖ WE4D : Digital Signal Processing

MO1D: High-Speed and Broadband Wireless Technologies

Chair: Mehmet Kaynak, IHP GmbH

Venue: Grand Salon B, 08:00 – 09:20, Monday 26 January 2015

PAGE 1 MO1D-1	Novel Non-Square, Gray Coded, 64-QAM Constellations <i>(Douglas H. Morais)</i>
PAGE 4 MO1D-2	BCH and LDPC Coded Wide-Band Modem for 21-GHz Band Satellite Broadcasting System <i>(Yoichi Suzuki, Yoshifumi Matsusaki, Masashi Kamei, Akinori Hashimoto, Takeshi Kimura, Shoji Tanaka, Tetsuomi Ikeda)</i>
PAGE 7 MO1D-3	Compact Monostatic/Bistatic UWB System for Wall Parameter Extraction <i>(Stephen Magoon, Christopher Thajudeen, Ahmad Hoorfar, Aly E. Fathy)</i>
PAGE 10 MO1D-4	Wideband Six-Port Receiver Using Elliptical Microstrip-Slot Directional Couplers <i>(Muh-Dey Wei, Yu-Tzu Chen, Saad Qayyum, Chao-Hsiung Tseng, Renato Negra)</i>

MO2D: Emerging Technologies I

Chair: Lawrence Larson, Brown University — Co-Chair: Medhi Shadaram, University of Texas at San Antonio

Venue: Grand Salon B, 10:10 – 11:30, Monday 26 January 2015

PAGE 13 MO2D-1	3GPP ACLR and EVM Measurements for Millimeter-Wave Wireless Backhaul Applications at 60GHz <i>(Simone Maier, Heinz Schlesinger, Gerhard Luz, Dieter Ferling, Wolfgang Kuebart, Andreas Pascht)</i>
PAGE 17 MO2D-2	Remote Phase Synchronization for Satellite Network Systems <i>(Jinjin Xu, Jiang Long, Yongzhi Sun, Dexin Ye, Jiangtao Huangfu, Changzhi Li, Lixin Ran)</i>
PAGE 20 MO2D-3	Non-Contact Hand Interaction with Smart Phones Using the Wireless Power Transfer Features <i>(Chenhui Liu, Changzhan Gu, Changzhi Li)</i>

MO3A: mm-Wave and THz

Chair: Hasan Sharifi, HRL Labs — Co-Chair: Rashaunda Henderson, University of Texas at Dallas

Venue: Gallery 2, 13:30 – 15:10, Monday 26 January 2015

PAGE 23 MO3A-1	Microwave and Millimeter Wave Power Amplifiers: Technology, Applications, Benchmarks, and Future Trends (<i>Invited Paper</i>) <i>(James J. Komiak)</i>
PAGE 26 MO3A-2	Power Synthesis at Low Frequencies in the Sub-THz Gap <i>(Jiaqi Zhao, Zhongbo Zhu, Bin Zhang, Dexin Ye, Changzhi Li, Lixin Ran)</i>
PAGE 29 MO3A-3	Evolution of DIG Integrated Platform for Millimeter-Wave Applications <i>(M.A. Basha, A. Samir, R.H. Zaghloul)</i>
PAGE 32 MO3A-4	A 30GHz Impulse Radiator with On-Chip Antennas for High-Resolution 3D Imaging <i>(Peiyu Chen, Aydin Babakhani)</i>

MO3B: RWS-SiRF Joint Session: Analysis and Arrays

Chair: Jeremy Muldavin, MIT Lincoln Laboratory — Co-Chair: Tommy Ellis

Venue: Grand Salon A, 13:30 – 15:10, Monday 26 January 2015

PAGE 35 MO3B-1	Front-End Non-Linear Distortion and Array Beamforming (<i>Invited Paper</i>) <i>(Daniel Rabinkin, William Song)</i>
PAGE 38 MO3B-2	Continuous-Time 2-D IIR+Time-Delay Linear Aperture Arrays <i>(Arjuna Madanayake, Chamith Wijenayake, Leonid Belestotski)</i>
PAGE 41 MO3B-4	A New Multiple-Antenna-Port and Multiple-User-Port Antenna Tuner <i>(Frédéric Broydé, Evelyne Clavelier)</i>

MO3D: Emerging Technologies II

Chair: Khanna Rahul, Intel

Venue: Grand Salon B, 13:30 – 15:10, Monday 26 January 2015

PAGE 44 MO3D-1	EM Characterization of a Patch Antenna with Thermo-Electric Generator and Solar Cell for Hybrid Energy Harvesting <i>(Marco Virili, Apostolos Georgiadis, Ana Collado, Paolo Mezzanotte, L. Roselli)</i>
PAGE 47 MO3D-2	Design of Efficient Rectifier for Low-Power Wireless Energy Harvesting at 2.45GHz <i>(Tag Jong Lee, Pavan Patil, Chiao Yi Hu, Mohammad Rajabi, Saeed Farsi, Dominique Schreurs)</i>
PAGE 50 MO3D-3	Stability of Non-Foster Circuits for Broadband Impedance Matching of Electrically Small Antennas <i>(Aseim M. Elfrgani, Roberto G. Rojas)</i>

MO4A: Advanced Antenna Technology

Chair: Nuno Borges Carvalho, Universidade de Aveiro

Venue: Grand Salon A, 15:40 – 17:20, Monday 26 January 2015

PAGE 53 MO4A-3	Curved Spiral Antennas for Freshwater Applications <i>(R.A. Llamas, James J. Niemeier, Anton Kruger)</i>
PAGE 56 MO4A-4	Fence Loaded Antenna Coupler for High-Band UWB with Steep Cutoff Characteristics <i>(Isao Saito, Kaoru Kohira, Hiroki Ishikuro)</i>
PAGE 59 MO4A-5	FDTD Analysis of Platform Effect Reduction with Thin Film Ferrite <i>(Zhi Yao, Qiang Xu, Yuanxun Ethan Wang)</i>

MO4D: Transceivers

Chair: Hiroshi Okazaki, NTT DoCoMo Inc

Venue: Gallery 2, 15:40 – 17:20, Monday 26 January 2015

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PAGE 65 MO4D-2	A 9.99mW Low-Noise Amplifier for 60GHz WPAN System and 77GHz Automobile Radar System in 90nm CMOS <i>(Yo-Sheng Lin, Chien-Yo Lee, Chih-Chung Chen)</i>
PAGE 68 MO4D-3	30-GHz mHEMT Divide-by-Three Injection-Locked Frequency Divider with Marchand Balun <i>(Wei-Ling Chang, Chinchun Meng, Kuan-Chang Tsung, Guo-Wei Huang)</i>
PAGE 71 MO4D-4	A GaN HEMT N-Path Filter with +17dBm Jammer Tolerance <i>(Chris M. Thomas, L. Larson)</i>

TU1B: Software Defined Radios and Cognitive Radios

Chair: Abbas Omar, University of Magdeburg

Venue: Gallery 1, 08:00 – 09:00, Tuesday 27 January 2015

PAGE 74 TU1B-1	Receiver Cancellation of Radar in Radio <i>(Kathleen L. Tokuda, Joseph H. Kim, Robert J. Baxley, J. Stevenson Kenney, Lawrence S. Cohen)</i>
PAGE 78 TU1B-2	Double Quadrature Mixer for Adaptive Spur Cancellation in Ultra-Wideband Radios <i>(Simon Mack, Jim Wight)</i>
PAGE 82 TU1B-3	On the Double Threshold Energy Detection-Based Spectrum Sensing over $\kappa - \mu$ Fading Channel <i>(Annita de Oliveira Petrocchi Ribas, Ugo Silva Dias)</i>

TU3A: Passive Antennas

Chair: Jiang Zhu, Google[x]

Venue: Grand Salon A, 13:30 – 14:50, Tuesday 27 January 2015

PAGE 86 TU3A-1	A CPW-Fed Meandered-Shaped Monopole Antenna with Asymmetrical Ground Planes <i>(Dai-Heng Hsieh, Jhong-Wei Wu, Yu-Wei Cheng, Chien-Jen Wang)</i>
PAGE 89 TU3A-3	Dual-Band Pattern-Reconfigurable Yagi-Uda Antenna <i>(Nicolas Gagnon)</i>

TU3B: Propagation and Channel Modelling

Chair: Chenming Zhou, National Institute for Occupational Safety and Health

Venue: Gallery 1, 13:30 – 14:50, Tuesday 27 January 2015

PAGE 92 TU3B-1	Physics-Based Ultra-Wideband Channel Modeling for Tunnel/Mining Environments <i>(Chenming Zhou)</i>
PAGE 95 TU3B-2	Millimeter-Wave Channel Sounding of Outdoor Ground Reflections <i>(Richard J. Weiler, Michael Peter, Wilhelm Keusgen, Andreas Kortke, Mike Wisotzki)</i>
PAGE 98 TU3B-3	Spectrum Sensing over Nakagami-m/Gamma Composite Fading Channel with Noise Uncertainty <i>(Wanessa de Alvarenga Silva, Kim Moraes Mota, Ugo Silva Dias)</i>
PAGE 102 TU3B-4	A Radiation Pattern Diversity Antenna Operating at the 2.4GHz ISM Band <i>(Sema Dumanli)</i>

TU5B: Late News

Chair: Sergio Pacheco, Freescale

Venue: Gallery 1, 16:00 - 17:00, Tuesday 27 January 2015

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TU5B-1

A Pseudorandom Clocking Scheme for a CMOS N-Path Bandpass Filter with 10-to-15dB Spurious Leakage Improvement
([Chris M. Thomas](#), [Vincent W. Leung](#), [L. Larson](#))

PAGE 108
TU5B-2

Performance of Non-Coherent FSK Virtual MISO Systems in Correlated Rayleigh Fading
([Muddassar Hussain](#), [Syed Ali Hassan](#))

PAGE 111
TU5B-3

A Low Power 24GHz Radar System for Occupancy Monitoring
([Fabian Lurz](#), [S. Mann](#), [Sarah Linz](#), [Stefan Lindner](#), [Francesco Barbon](#), [Robert Weigel](#), [Alexander Koelpin](#))

TU5C: High Speed II

Chair: Debabani Choudhury, Intel

Venue: Grand Salon B, 16:00 – 17:20, Tuesday 27 January 2015

PAGE 114 TU5C-1	Iterative Receiver for Millimeter-Wave OFDM Systems: Evaluation of High Doppler Shift by Dynamic Channel Model (Yuyuan Chang , Masashi Furukawa , Hiroshi Suzuki , Kazuhiko Fukawa)
PAGE 117 TU5C-2	Development of a Very Low-Cost Down Converter for the IEEE802.11ad Wireless Network Appliance Test (Kohei Fujiwara , Nobuhiko Shibagaki , Takeshi Kobayashi , Hiroshi Hanyu)
PAGE 120 TU5C-3	Performance Evaluation of LTE-Advanced Downlink Adopting Higher Order Modulation in Small Cells (Takeo Ohseki , Toshiaki Yamamoto , Yasuhiro Suegara)
PAGE 123 TU5C-4	Evaluation of Information Leak by Robustness Evaluation of Countermeasure to Disguised CSI in PLNC Considering Physical Layer Security (Kengo Matsumoto , Osamu Takyu , Takeo Fujii , Tomoaki Ohtsuki , Fumihito Sasamori , Shiro Handa)

WE1B: Passives Components and Packaging I

Chair: Hualiang Zhang, University of North Texas — Co-Chair: Roberto Gomez-Garcia, University of Alcala

Venue: Grand Salon A, 08:00 – 09:40, Wednesday 28 January 2015

PAGE 126 WE1B-1	Miniaturized Via-Less Ultra-Wideband Bandpass Filter Based on CRLH-TL Unit Cell (Abdullah Alburaikan , Mohammed Aqeeli , Xianjun Huang , Zhirun Hu)
PAGE 129 WE1B-2	Dual-Band Negative Group Delay Circuit Using Defected Microstrip Structure (Girdhari Chaudhary , Phirun Kim , Junhyung Jeong , Yongchae Jeong , Jongsik Lim)
PAGE 132 WE1B-3	A High-Power Ka-Band Single-Pole Single-Throw Switch MMIC Using 0.25μm GaN on SiC (Saqib Kaleem , Jutta Kühn , Rüdiger Quay , Matthias Hein)
PAGE 135 WE1B-4	High Frequency-Selectivity Impedance Transformer (Phirun Kim , Girdhari Chaudhary , Junsik Park , Yongchae Jeong , Jongsik Lim)
PAGE 138 WE1B-5	A Class of Planar Multi-Band Wilkinson-Type Power Divider with Intrinsic Filtering Functionality (Raúl Loeches-Sánchez , Dimitra Psychogiou , Dimitrios Peroulis , Roberto Gómez-García)

WE2B: Passives Components and Packaging II

Chair: Dariush Mirshekar-Syahkal, University of Essex — Co-Chair: Rashaunda Henderson, University of Texas Dallas

Venue: Grand Salon A, 10:10 – 11:50, Wednesday 28 January 2015

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PAGE 144 WE2B-2	Small Low-Pass Filter Using Slotted-Ground-Plane Resonator <i>(Jhong-Wei Wu, Dai-Heng Hsieh, Yu-Wei Cheng, Wan-Ti Wang, Chien-Jen Wang)</i>
PAGE 147 WE2B-4	Sharp-Rejection Highpass and Dual-Band Bandpass Planar Filters with Multi-Transmission-Zero-Generation Transversal Cell <i>(Raúl Loeches-Sánchez, Dimitra Psychogiou, Dimitrios Peroulis, Roberto Gómez-García)</i>
PAGE 150 WE2B-5	A Fourth Order Tunable Capacitor Coupled Microstrip Resonator Band Pass Filter <i>(Shilei Hao, Qun Jane Gu)</i>

WE3B: 3D and Printed Technologies for RF

Chair: Shamsur Mazumder

Venue: Grand Salon A, 13:30 – 14:50, Wednesday 28 January 2015

PAGE 153 WE3B-2	2.4GHz Inkjet-Printed RF Energy Harvester on Bulk Cardboard Substrate (<i>Invited Paper</i>) (Zahra Khonsari , Toni Björninen , Manos M. Tentzeris , Lauri Sydänheimo , Leena Ukkonen)
PAGE 156 WE3B-3	Ultra-Wideband Microwave Components Fabricated Using Low-Cost Aerosol-Jet Printing Technology (Xing Lan , Xuejun Lu , Tyler Blumenthal , Vincent Fratello , Wesley Chan , Minhdao Truong , Kenney Kiyono , Yingjie Zhang , Guiru Gu , May Tan)
PAGE 159 WE3B-4	Planar Monopole Antennas on Substrates Fabricated Through an Additive Manufacturing Process (Christy D. Saintsing , Kai Yu , H. Jerry Qi , Manos M. Tentzeris)

WE3C: Late News II

Chair: Sergio Pacheco, Freescale — Co-Chair: Karen Gettings, MIT Lincoln Laboratory

Venue: Grand Salon B, 13:30 – 14:30, Wednesday 28 January 2015

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PAGE 165 WE3C-2	A Broadband Rx Band Noise Reduction Circuit with CMOS Switch for Multi-Band Power Amplifier (Yoshifumi Kawamura , Shintaro Shinjo , Kazuhiro Iyomasa , Masakazu Hirobe , Katsuya Kato , Yoshinori Takahashi , Shigeo Yamabe , Kenichi Horiguchi , Morishige Hieda , Koji Yamanaka)
PAGE 168 WE3C-3	Transmit-Receive (T/R) Isolation Enhancement with an Indented Antenna Array (Qiang Xu , Shihan Qin , Yuanxun Ethan Wang)

WE3P: Joint RWW Interactive Poster Session: Transceivers and Front-end Technologies SOC and SiP

Chair: Yupeng Jia, National Instruments

Venue: Grand Salon CDE, 12:50 – 14:40, Wednesday 28 January 2015

PAGE 171 WE3P-1	A Low Power and High Conversion Gain 77~81GHz Double-Balanced Up-Conversion Mixer with Excellent LO-RF Isolation in 90nm CMOS (<i>Yo-Sheng Lin, Run-Chi Liu, Chien-Chin Wang, Chih-Chung Chen</i>)
PAGE 174 WE3P-2	Accelerating Software Radio on ARM: Adding NEON Support to VOLK (<i>Nathan West, Douglas Geiger, George Scheets</i>)
PAGE 177 WE3P-3	Series-Cascaded Absorptive Notch-Filters for 4G-LTE Radios (<i>Dimitra Psychogiou, Ruiyi Mao, Dimitrios Peroulis</i>)
PAGE 180 WE3P-4	Two $\lambda/2$ Dipole Array Coplanar Feed Wideband PCB Antenna (<i>Qing Wei Pan</i>)
PAGE 183 WE3P-5	On Coupled-Resonator Filters with Tunable Bandwidth (<i>M.K. Wohler, A. Jaschke, M. Schühler</i>)
PAGE 186 WE3P-6	Performance Comparison of Raised Cosine Shaped and Rectangular Pulsed Signals in E-Band Wireless Communication Systems (<i>F. Boes, J. Antes, D. Meier, T. Messinger, D. Müller, R. Henneberger, Axel Tessmann, I. Kallfass</i>)
PAGE 190 WE3P-7	Resonant Characteristics of Metal Rod Resonator Supported by PEEK Material at 60GHz (<i>Futoshi Kuroki, Makoto Teramoto</i>)
PAGE 193 WE3P-8	A Capacitively-Loaded Loop Antenna for UHF Near-Field RFID Reader Applications (<i>M. Dhaouadi, M. Mabrouk, T.P. Vuong, A.C. de Souza, A. Ghazel</i>)

WE4B: Wireless System Modelling

Chair: Syed Islam, University of Tennessee at Knoxville

Venue: Grand Salon A, 15:40 – 17:00, Wednesday 28 January 2015

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PAGE 200 WE4B-2	Enhancing Connectivity for Communication and Control in Unmanned Aerial Vehicle Networks <i>(Danda B. Rawat, Robin Grodi, Chandra Bajracharya)</i>
PAGE 203 WE4B-3	Band-Shaped Analog Peak-to-Average Power Ratio Reduction <i>(Mikyung Cho, J. Stevenson Kenney)</i>
PAGE 206 WE4B-4	An Experimental Evaluation on EVM Performance for 4-CSK(Color Shift Keying) Using Visible Light with Multiple Full-Color LEDs <i>(Hiroki Shimamoto, Yusuke Kozawa, Yohtaro Umeda)</i>

WE4D: Digital Signal Processing

Chair: Jeremy Muldavin, MIT Lincoln Laboratory

Venue: Grand Salon B, 15:40 – 17:00, Wednesday 28 January 2015

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PAGE 212 WE4D-2	Outphasing Multi-Level RF-PWM Signals for Inter-Band Carrier Aggregation in Digital Transmitters <i>(SungWon Chung, Rui Ma, Koon Hoo Teo, Kieran Parsons)</i>
PAGE 215 WE4D-3	Frequency Quadrupling Transmitter Architecture with Digital Predistortion for High-Order Modulation Signal Transmission <i>(Youjiang Liu, Gang Liu, Peter M. Asbeck)</i>
PAGE 218 WE4D-4	Real Time Digital Signal Strength Tracking for RF Source Location <i>(J.D. Popp, J. Lopez)</i>
PAGE 221 WE4D-5	Digital Cancellation Technique to Mitigate Receiver Desensitization in Cellular Handsets Operating in Carrier Aggregation Mode with Multiple Uplinks and Multiple Downlinks <i>(Hamed Gheidi, Hayg-Taniel Dabag, Youjiang Liu, Peter M. Asbeck, Prasad Gudem)</i>