

THOMAS McCREA WELLER

School Head, Electrical Engineering and Computer Science

Professor of Electrical Engineering

College of Engineering

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ACADEMIC, INDUSTRY AND LEADERSHIP APPOINTMENTS

- 2021-2022 **Interim and Founding Director**, Center for Research in Engineering Education Online, College of Engineering, Oregon State University, Corvallis, OR.
- 2018-Present **Professor and School Head**, Electrical Engineering and Computer Science, College of Engineering, Oregon State University, Corvallis, OR.
- 2012-2018 **Professor and Chair of Electrical Engineering**, College of Engineering, University of South Florida, Tampa, FL.
- 2008-2011 **Professor and Associate Dean for Research**, College of Engineering, University of South Florida, FL.
- 2006-2008 **Professor of Electrical Engineering**, College of Engineering, University of South Florida, FL.
- 2001-2007 **Founder and Vice President for Technical Operations**, Modelithics, Inc., Tampa, FL.
- 2001-2006 **Associate Professor of Electrical Engineering**, College of Engineering, University of South Florida, FL.
- 1995-2001 **Assistant Professor of Electrical Engineering**, College of Engineering, University of South Florida, FL.
- 1988-1990 **Communications Systems Engineer**, Hughes Aircraft, El Segundo, CA.

EDUCATION

- 1990-1995 **Ph.D.** (1995) and **M.S.** (1991) in **Electrical Engineering**, University of Michigan, Ann Arbor, MI. Dissertation Advisor: Professor Linda Katehi. Dissertation title: Micromachined High Frequency Transmission Lines on Thin Membranes.
- 1984-1988 **B.S. in Electrical Engineering**, Summa cum laude, University of Michigan, Ann Arbor, MI.

AWARDS AND HONORS

- Professional: Michael and Judith Gaulke Endowed Chair in Electrical Engineering and Computer Science (2018 – present)
Fellow, IEEE (2018)
Distinguished Service Award, Wireless & Microwave Technology Conference Executive Committee (2017)
Courtesy Professor, USF Institute for Advanced Discovery & Innovation (2017 – 2018)
Fellow, National Academy of Inventors (2016)
William R. Jones Outstanding Mentor Award, Florida Education Fund (2010)
USF Diversity Honor Roll (2010)
USF Academy of Inventors, Charter Member (2009 – 2018)

IEEE MTT Society Outstanding Young Engineer (2005)
University of South Florida President's Award for Faculty Excellence (2003)
IBM Faculty Partnership Award (2000, 2001)
National Science Foundation CAREER Award (1999)
IEEE MTT Society Microwave Prize for Best Technical Paper (1996) - For significant contributions to the field of endeavor in the Microwave Theory and Techniques Society, for the paper entitled Terahertz-Bandwidth Characteristics of Coplanar Transmission Lines on Low Permittivity Substrates

Graduate: MTT-S International Microwave Symposium, Student Paper Competition Award (1995)
NASA Graduate Fellowship (1994-1995)

Undergraduate: University of Michigan Regents Scholarship
James B. Angell Scholar (University of Michigan)

FUNDED RESEARCH GRANTS

My research experience is in the area of applied electromagnetics, with specific applications that include microwave and mmWave circuit, sensor and antenna design; additive manufacturing; and equivalent circuit modeling. I have supervised over 120 research projects and received grants totaling over \$11M as Principal Investigator and \$8M as Co-Principal Investigator, from agencies that include the National Science Foundation, the Office of Naval Research, the Air Force Research Laboratory, the Department of Transportation, the Central Intelligence Agency, the Army Research Laboratory, and several private companies.

PEER REVIEWED PUBLICATIONS AND PATENTS

As of December 2022, my H-Index is 35 and my publications have been cited over 5100 times (Google scholar). My publications include 3 books chapters, 95 refereed journal papers, and 249 refereed conference papers. I am the inventor or co-inventor on 43 issued U.S. patents.

GRADUATE AND UNDEGRADUATE STUDENT SUPERVISION

I have supervised 27 Ph.D. students to completion and 51 M.S. students to completion. Graduate students that I have supervised at the University of South Florida and Oregon State University have received over 62 awards and recognitions for their research and scholarship. I have supervised over 30 undergraduate students in Research Experience for Undergraduates programs.

SELECTED PROFESSIONAL SERVICE

IEEE:

Fellow Evaluating Committee, Microwave Theory and Techniques Society (MTT), 2018-2021
Awards Chair, Wireless and Microwave Technology Conference, 2010 – present
Organizing Committee – IMS Project Connect, International Microwave Symposium, 2015 – present
Vice-Chair, 2014 International Microwave Symposium, 2014
Co-chair 1999, General Chair 2000, 2001, 2002. Registration Chair 2003-2010, 2014-2017: Wireless and Microwave Technology Conference (WAMICON).
Vice President of Technical Operations, IEEE Sensors Council, 2002-2006
IEEE MTT Society Distinguished Lecturers Selection Committee, 2004 – 2008
Member of the IEEE Sensors Administrative Committee (now Sensors Council), 1998-2006
IEEE Sensors Council Distinguished Lecturer Program, Chair, 2005-2007

Oregon State University:

Co-Chair, Semiconductor Strategy Advisory Committee, 2022 – present.
Interim Director, Center for Research in Engineering Education Online, 2021 – 2022

Search Committee Chair for School Head in Civil and Construction Engineering, 2020
Committee to Review Promotion & Tenure (P&T) Guidelines for Innovation and Entrepreneurship (I&E) Inclusion, 2020 – present
EECS External Partnerships Committee, 2020 – 2021
Chair, Strategic Planning Committee for Center for Applied Systems and Software (CASS), 2021
Committee Member, Impact Studio Core Team for Oregon Research and Training Security Operations Center (ORTSOC), 2021
Chair, Ad-Hoc Committee on Experiential Learning and Professional Development, 2020

University of South Florida:

Textbook Affordability Task Force, 2017-2018
World Workgroup, 2012-2014
Office of Research Conflict of Interest Review Committee, 2012-2016
Office of Research Patent Royalty Distribution Policy Evaluation Committee, 2010
Proposal Development Taskforce, 2010
Co-director/Director of the Center for Wireless and Microwave Information Systems, 2001 – 2018

Book Contributions

L. Katehi, G. Rebeiz, T. Weller, R. Drayton, S. Robertson and C. Chi, *The Industrial Electronics Handbook*, ed. David Irwin, CRC Press, Inc., Section X, Si Micromachining in High-Frequency Applications, pp. 1547-1572, 1996.

S. Balachandran, T. Weller, A. Kumar, S. Jeedigunta, H. Gomez, J. Kusterer and E. Kohn, *Emerging Nanotechnologies for Manufacturing*, ed. Jeremy Ramsden, William Andrew Applied Science Publishers, Nanocrystalline Diamond for RF-MEMS Applications, pp. 277-300, 2010.

G. Mumcu and T. Weller, *Antenna Engineering Handbook*, Ch. 10 Small Antennas and Miniaturization Techniques, ed. John Volakis, McGraw-Hill Global Education Holdings, 2018.

Journal Publications

1. A. Menon and T. M. Weller, "Towards Pactive (Passive +Active) Security Sensors for Improved Identification of Material Properties," in *IEEE Open Journal of Antennas and Propagation* Print ISSN: 2637-6431 Online ISSN: 2637-6431 Digital Object Identifier: 10.1109/OJAP.2023.3236110.
2. Tipton, R. B.; Hou, D.; Shi, Z.; Weller, T. M.; Bhethanabotla, V. R., "Optical interconnects on a flexible substrate by multi-material hybrid additive and subtractive manufacturing," *Additive Manufacturing*, Vol. 48, Part A, December 2021.
3. M. M. Abdin, W. J. D. Johnson, J. Wang and T. M. Weller, "W-Band MMIC Chip Assembly Using Laser-Enhanced Direct Print Additive Manufacturing," in *IEEE Transactions on Microwave Theory and Techniques*, vol. 69, no. 12, pp. 5381-5392, Dec. 2021.
4. G. L. Saffold and T. M. Weller, "Dielectric Rod Antenna Array With Planar Folded Slot Antenna Excitation," in *IEEE Open Journal of Antennas and Propagation*, vol. 2, pp. 664-673, 2021.
5. A. Menon and T. M. Weller, "A Novel Background Calibration Technique for Microwave Radiometric Sensors in Indoor Applications," in *IEEE Sensors Letters*, vol. 4, no. 12, pp. 1-4, Dec. 2020.

6. I. H. Uluer, M. J. Jaroszeski, J. L. Gess and T. M. Weller, "An X-Band Dielectric Rod Antenna for Subdermal Tumor Heating to Assist Electroporation-Mediated DNA Delivery," in *IEEE Journal of Electromagnetics, RF and Microwaves in Medicine and Biology*, vol. 5, no. 4, pp. 340-346, Dec. 2021.
7. D. C. Lugo, J. Wang and T. M. Weller, "Analytical and Experimental Study of Multilayer Dielectric Rod Waveguides," in *IEEE Transactions on Microwave Theory and Techniques*, vol. 69, no. 4, pp. 2088-2097, April 2021.
8. M. Kacar, T. M. Weller and G. Mumcu, "3D Printed Wideband Multilayered Dual-Polarized Stacked Patch Antenna with Integrated MMIC Switch," in *IEEE Open Journal of Antennas and Propagation*, doi: 10.1109/OJAP.2020.3041959, December 2020.
9. M. Kacar, T. Weller and G. Mumcu, "Conductivity Improvement of Microdispensed Microstrip Lines and Grounded Coplanar Waveguides Using Laser Micromachining," in *IEEE Transactions on Components, Packaging and Manufacturing Technology*, vol. 10, no. 12, pp. 2129-2132, Dec. 2020, doi: 10.1109/TCPMT.2020.3038332.
10. R. Tipton, D. Hou, E. Rojas-Nastrucci, T. Weller and V. Bhethanabotla, "Laser Enhanced Direct Print Additive Manufacturing of Circular Cross-Section Optical Fiber Interconnects for Board Level Computing Devices," *Additive Manufacturing*, 15 April 2020.
11. C. Neff, E. A. Rojas-Nastrucci, J. Nussbaum, D. Griffin, T. M. Weller and N. B. Crane, "Thermal and Vapor Smoothing of Thermoplastic for Reduced Surface Roughness of Additive Manufactured RF Electronics," in *IEEE Transactions on Components, Packaging and Manufacturing Technology*, vol. 9, no. 6, pp. 1151-1160, June 2019.
12. D. Lugo, R. A. Ramirez, J. Wang and T. Weller, "Multilayer Dielectric End-Fire Antenna with Enhanced Gain," *IEEE Antennas and Wireless Propagation Letters*, Vol. 17, Issue 12, pp. 2213-2217, December 2018. 10.1109/LAWP.2018.2871103.
13. R. Ramirez, E. Rojas and T. Weller, "Laser Assisted Additive Manufacturing of mm-Wave Lumped Passive Elements," *IEEE Trans. Microwave Theory & Techniques*, Vol. 6, Issue 12, pp. 5462-5471, December 2018. doi: 10.1109/TMTT.2018.2873294
14. J. Frolik, J. E. Lens, M. M. Dewoolkar and T. M. Weller, "Effects of Soil Characteristics on Passive Wireless Sensor Interrogation," in *IEEE Sensors Journal*, vol. 18, no. 8, pp. 3454-3460, April 15, 2018.
15. D. M. Zaiden, J. E. Grandfield, T. M. Weller and G. Mumcu, "Compact and Wideband MMIC Phase Shifters Using Tunable Active Inductor-Loaded All-Pass Networks," in *IEEE Transactions on Microwave Theory and Techniques*, vol. 66, no. 2, pp. 1047-1057, Feb. 2018.
16. E. A. Rojas-Nastrucci; H. Tsang; P. I. Deffenbaugh; R. A. Ramirez; D. Hawatmeh; A. Ross; K. Church; T. M. Weller, "Characterization and Modeling of K-Band Coplanar Waveguides Digitally Manufactured Using Pulsed Picosecond Laser Machining of Thick-Film Conductive Paste," in *IEEE Transactions on Microwave Theory and Techniques*, vol. 65, no. 9, pp. 3180-3187, Sept. 2017.
17. J. Castro, E. A. Rojas-Nastrucci, A. Ross, T. M. Weller and J. Wang, "Fabrication, Modeling, and Application of Ceramic-Thermoplastic Composites for Fused Deposition Modeling of Microwave Components," in *IEEE Transactions on Microwave Theory and Techniques*, vol. 65, no. 6, pp. 2073-2084, June 2017.

18. E. A. Rojas-Nastrucci, J. T. Nussbaum, N. B. Crane and T. M. Weller, "Ka-Band Characterization of Binder Jetting for 3-D Printing of Metallic Rectangular Waveguide Circuits and Antennas," in IEEE Transactions on Microwave Theory and Techniques, vol. 65, no. 9, pp. 3099-3108, Sept. 2017.
19. R. Ramirez, E. Rojas-Nastrucci, and T. M. Weller, "UHF RFID Tags for On/Off-Metal Applications Fabricated using Additive Manufacturing," IEEE Antennas and Wireless and Propagation Letters, Vol. 16, Issue 1, pp. 1-4, 2017.
20. Kenneth H. Church, Nathan Crane, Paul I. Deffenbaugh, Thomas P. Ketterl, Clayton Neff, Patrick Nesbitt, Justin Nussbaum, Casey Perkowski, Harvey Tsang, Jing Wang, and Thomas M. Weller, "Multi-Material and Multi-Layer Direct Digital Manufacturing of 3D Structural Microwave Electronics," Proceedings of the IEEE, Vol. 105, Issue 4, 2017.
21. E. A. Rojas-Nastrucci, A. D. Snider and T. M. Weller, "Propagation Characteristics and Modeling of Meshed Ground Coplanar Waveguide," in IEEE Transactions on Microwave Theory and Techniques, vol. 64, no. 11, pp. 3460-3468, Nov. 2016.
22. J. Castro, E. A. Rojas, M. F. Córdoba, A. Perez, T. Weller, and J. Wang, "High-Permittivity and Low-Loss Electromagnetic Composites Based on Co-Fired Ba_{0.55}Sr_{0.45}TiO₃ or MgCaTiO₂ Micro-Fillers for Additive Manufacturing and Their Application to 3D-Printed K-Band Antennas," Journal of Microelectronics and Electronic Packaging, Vol. 13, No. 3, pp.102-112, July 2016.
23. D. F. Hawatmeh, S. LeBlanc, P. I. Deffenbaugh and T. Weller, "Embedded 6-GHz 3-D Printed Half-Wave Dipole Antenna," in IEEE Antennas and Wireless Propagation Letters, vol. 16, no. , pp. 145-148, 2017.
24. Ketterl, T.P.; Vega, Y.; Arnal, N.C.; Stratton, J.W.I.; Rojas-Nastrucci, E.A.; Cordoba-Erazo, M.F.; Abdin, M.M.; Perkowski, C.W.; Deffenbaugh, P.I.; Church, K.H.; Weller, T.M., "A 2.45 GHz Phased Array Antenna Unit Cell Fabricated Using 3-D Multi-Layer Direct Digital Manufacturing," in Microwave Theory and Techniques, IEEE Transactions on , vol.63, no.12, pp.4382-4394, Dec. 2015.
25. Deffenbaugh, P.I.; Weller, T.M.; Church, K.H., "Fabrication and Microwave Characterization of 3-D Printed Transmission Lines," in Microwave and Wireless Components Letters, IEEE , vol.25, no.12, pp.823-825, Dec. 2015.
26. Nassar, I.T.; Wang, J.; Frolik, J.L.; Weller, T.M., "A High-Efficiency, Miniaturized Sensor Node With 3-D Machined-Substrate Antennas for Embedded Wireless Monitoring," Sensors Journal, IEEE , vol.15, no.9, pp.5036,5044, Sept. 2015.
27. I. T. Nassar and T. M. Weller, "A Novel Method for Improving Antipodal Vivaldi Antenna Performance," in IEEE Transactions on Antennas and Propagation, vol. 63, no. 7, pp. 3321-3324, July 2015.
28. I. Nassar, H. Tsang, D. Bardroff, C. Lusk and T. Weller, "Mechanically Reconfigurable, Dual-Band Slot Dipole Antennas," Antennas and Propagation, IEEE Transactions on, vol. 63, no. 7, July 2015.
29. M. F. Córdoba-Erazo and T. M. Weller, "Noncontact Electrical Characterization of Printed Resistors Using Microwave Microscopy," in IEEE Transactions on Instrumentation and Measurement, vol. 64, no. 2, pp. 509-515, Feb. 2015.

30. Nassar, I.T.; Weller, T.M., "A Compact Dual-Channel Transceiver for Long-Range Passive Embedded Monitoring," *Microwave Theory and Techniques, IEEE Transactions on* , vol.63, no.1, pp.287,294, Jan. 2015.
31. O'Brien, J.M.; Grandfield, J.E.; Mumcu, G.; Weller, T.M., "Miniaturization of a Spiral Antenna Using Periodic Z-Plane Meandering," *Antennas and Propagation, IEEE Transactions on* , vol.63, no.4, pp.1843,1848, April 2015.
32. Nassar, I.; Tsang, H.; Weller, T., "3D printed wideband harmonic transceiver for embedded passive wireless monitoring," *Electronics Letters*, vol.50, no.22, pp.1609,1611, 10 23 2014.
33. D. Cure, T. Weller, T. Price, F. Miranda and F. Van Keuls, "Low Profile Tunable Dipole Antenna Using Barium Strontium Titanate Varactors," *IEEE Trans. Antennas and Propagation*, Vol. 62, Issue 3, 2014.
34. R. Davidova and T. Weller, "High-Sensitivity, AM-modulated harmonic transceiver for wireless sensing," *Electronics Letters*, 11th April 2013, Vol. 49, No. 8.
35. Palomo, T.; Herzig, P.; Weller, T.M.; Mumcu, G., "Wideband Band-Stop X-Band Filter Using Electrically Small Tightly Coupled Resonators," *Microwave and Wireless Components Letters, IEEE* , vol.23, no.7, pp.356,358, July 2013.
36. S. Melais, D. Cure and T. Weller, "A Quasi-Yagi Antenna Backed by a Jerusalem Cross Frequency Selective Surface," *International Journal of Microwave Science and Technology*, vol. 2013, Article ID 354789, 8 pages, 2013. doi:10.1155/2013/354789.
37. Cure, D.; Weller, T. M.; Miranda, F. A.; , "Study of a Low-Profile 2.4-GHz Planar Dipole Antenna Using a High-Impedance Surface With 1-D Varactor Tuning," *Antennas and Propagation, IEEE Transactions on* , vol.61, no.2, pp.506-515, Feb. 2013.
38. Nassar, I.T.; Weller, T.M.; Lusk, C.P., "Radiating Shape-Shifting Surface Based on a Planar Hoberman Mechanism," *Antennas and Propagation, IEEE Transactions on* , vol.61, no.5, pp.2861,2864, May 2013.
39. J. Frolik, P. Flikkema, W. Shiroma, T. Weller, C. Haden and R. Drayton, "Leveraging multi-university collaboration to develop portable and adaptable course materials that improve student learning of systems thinking," *ASEE Advances in Engineering Education*, Vol. 03, Issue 03, Winter 2013.
40. Ibrahim T. Nassar, Thomas M. Weller, and Jeffrey L. Frolik, "A Compact 3-D Harmonic Repeater for Passive Wireless Sensing," *Microwave Theory and Techniques, IEEE Transactions on* , vol.60, no.10, pp.3309-3316, Oct. 2012.
41. E. Benabe, M. Crites, J. Whitaker and T. Weller, "In-Situ Characterization of PIN Diode Waveforms Using Electro-Optic Sampling," *Microwave and Optical Technology Letters*, Volume 54, Issue 11, pp. 2653-2656, November 2012.
42. B. Zivanovic, T. Weller and C. Costas, "Series-Fed Microstrip Antenna Arrays and Their Application to Omni-Directional Antennas," *Antennas and Propagation, IEEE Transactions on* , vol.60, no.10, pp.4954-4959, Oct. 2012.
43. I. Nassar and T. Weller, "Development of Novel 3-D cube Antennas for Compact Wireless Sensor Nodes," *IEEE Trans. Antennas and Propagation*, Vol. 60, pp. 1059-1065, Feb. 2012.

44. K. Stojak, S. Pal, H. Srikanth, C. Morales, J. Dewdney, T. Weller and J. Wang, "Polymer nanocomposites exhibiting magnetically tunable microwave properties," *Nanotechnology*, vol. 23, no. 13, 135602 (6 pp), February 2011.
45. Bonds, Q.; Weller, T.; Herzig, P.; , "Towards Core Body Temperature Measurement via Close Proximity Radiometric Sensing," *Sensors Journal, IEEE* , vol. PP, no.99, February 2011.
46. Morales, C.; Dewdney, J.; Pal, S.; Skidmore, S.; Stojak, K.; Srikanth, H.; Weller, T.; Jing Wang; , "Tunable Magneto-Dielectric Polymer Nanocomposites for Microwave Applications," *Microwave Theory and Techniques, IEEE Transactions on* , vol.59, no.2, pp.302-310, Feb. 2011.
47. Natarajan, S. P., Hoff, A. M. and Weller, T. M. (2010), Polyimide core 3D rectangular micro coaxial transmission lines. *Microwave and Optical Technology Letters*, 52: 1291-1293.
48. S. Baylis, S. Presas, and T. Weller, "Wide Bandwidth Varactor-Tuned Patch Antenna," *IEE Electronics Letters*, Vol. 45, Issue 16, pp. 816-818, July 2009.
49. Frolik, J.; Weller, T.M.; DiStasi, S.; Cooper, J., "A Compact Reverberation Chamber for Hyper-Rayleigh Channel Emulation," *Antennas and Propagation, IEEE Transactions on* , vol.57, no.12, pp.3962-3968, Dec. 2009.
50. S. Melais and T. Weller, "A Quasi Yagi Antenna Backed by a Metal Reflector," *Antennas and Propagation, IEEE Transactions on* , vol.56, no.12, pp.3868-3872, Dec. 2008.
51. Venkataramanan Gurumurthy, Sathyaharish Jeedigunta, Sam Baylis, Ashok Kumar, and Thomas Weller, "Structural and Electrical Properties of Nanocrystalline Diamond based Barium Strontium Titanate Varactors" *International Journal of Ferroelectrics*, 15 December (2008).
52. E. Maxwell, T. Weller and E. Odu, "Design and Analysis of a Multi-Port Circuit for Shaping Sub-nanosecond Pulses," *IEEE Trans. MTT*, Vol. 56, No. 12, December 2008.
53. A. Kumar, S. Manavalan, V. Gurumurthy, S. Jeedigunta and T. Weller, "*Dielectric and structural properties of Pulsed Laser Deposited and sputtered Barium Strontium Titanate thin films* ", *Materials Science and Engineering: B*, Volume 139, Issues 2-3, 15 May 2007, Pages 177-185.
54. S. Natarajan, T. Weller and D. Hoff, "3-D Micro Coaxial Transmission Lines with Integrated MEM Capacitors," *Microwave and Wireless Components Letters, IEEE*, Volume 17, Issue 12, Dec. 2007 Page(s):858 - 860.
55. Saravana Natarajan, Thomas M. Weller and David P. Fries, "Sensitivity Tunable Inductive Fluid Conductivity Sensor based on RF Phase Detection", *Sensors Journal, IEEE*, Volume 7, Issue 9, Sept. 2007 Page(s):1300 - 1301.
56. R. Heindl, H. Srikanth, S. Witanachchi, P. Mukherjee, A. Heim, G. Matthews, S. Balachandran, S. Natarajan and T. Weller, "Multi-functional Ferrimagnetic-Ferroelectric Thin Films for Microwave Applications," *Applied Physics Letters*, 252507, 2007.
57. R. Heindl, et al., "Structure, magnetism and tunable microwave properties of PLD-grown Barium Ferrite/Barium Strontium Titanate bi-layer films," *J. Appl. Phys.* 101, 09M503 (2007).

58. T. Ketterl and T. Weller, "Reflectenna: A Quasi Passive On-Off Keyed Microwave Telemetry System for Remote Sensor Applications," *IEE Proc. Microwaves, Antennas & Propagation*, Vol. 1, Issue 4, August 2007, pp. 843-846.
59. E. Maxwell, T. Weller and J. Harrow, "Mathematical Reformulation of the Ideal Gaussian for Ultra-Wideband Radar Systems," *FEF Journal of Interdisciplinary Research*, July 2007.
60. B. Lakshminarayanan and T. M. Weller, "Optimization and Implementation of Impedance-Matched True-Time-Delay Phase Shifters on Quartz Substrate," in *IEEE Transactions on Microwave Theory and Techniques*, vol. 55, no. 2, pp. 335-342, Feb. 2007.
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62. B. Lakshminarayanan and T. Weller, "Design and Modeling of 4-Bit Slow-Wave MEMS Phase Shifters," *Microwave Theory and Techniques, IEEE Transactions on*, Volume 54, Issue 1, Jan. 2006 Page(s): 120 - 127.
63. B. Lakshminarayanan and T. Weller, "Electronically Tunable Multi-line TRL Using an Impedance Matched Multi-Bit MEMS Phase Shifter," *Microwave and Wireless Components Letters, IEEE* [see also *IEEE Microwave and Guided Wave Letters*] Volume 15, Issue 2, Feb. 2005 Page(s):137 - 139.
64. J. Naylor, T. Weller, et al., "Slow Wave CPW for Phase Matching and Slot-Line Transition Design," *IEE Proc. Microwaves, Antennas and Propagation*, October 2005, 297-300.
65. M. Scardelletti, T. Weller, N. Dib, J. Culver and B. King, "Coplanar Waveguide-Fed Slot Antennas on Cylindrical Substrates," *International J. of Electronics and Communications*, January 2005.
66. Lopez, L.S.; Weller, T.M.; , "A low-loss quartz-based cross-coupled filter integrated onto low-resistivity silicon," *Microwave Theory and Techniques, IEEE Transactions on* , vol.52, no.8, pp. 1809- 1812, Aug. 2004.
67. M. Oldenburg and T. Weller, "High Efficiency CPW-to-Slotline Transitions on Low Er Substrates," *Microwave and Optical Technology Letters*, Volume 41, Issue 2, Pages 91 – 93, March 2004.
68. R. Singh and T. Weller, "Capacitively Loaded CPW Shunt Stub Filters," *Microwave and Optical Technology Letters*, Volume: 36, Issue: 4, Date: 20 February 2003, Pages: 292-295.
69. C. Trent and T. Weller, "S-Band Reflection Type Variable Attenuator," *IEEE Microwave and Wireless Components Letters* [see also *IEEE Microwave and Guided Wave Letters*], Volume: 12 Issue: 7, Jul 2002, Page(s): 243 -245.
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71. M. Scardelletti, G. Ponchak, and T. Weller, "Miniaturized Wilkinson Power Dividers Utilizing Capacitive Loading," *Microwave and Wireless Components Letters*, pp. 6-8, January 2002.
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73. S. Gross and T. Weller, "Determining the RF Resistance and Q Factor of Air Core Inductors," *Microwave and Optical Technology Letters*, April 2001.
74. T. Weller, "Edge-Coupled Coplanar Waveguide Bandpass Filter Design," *IEEE Trans. MTT*, pp. 2453-2458, December 2000.
75. N. Dib and T. Weller, "Two-Dimensional Finite Difference Time Domain Method Analysis of Cylindrical Transmission Lines," *Intl. Journal of Electronics*, volume 87, number 9, pp. 1065-1081, September 2000.
76. N. Dib and T. Weller, "Finite Difference Time Domain (FDTD) Analysis of Cylindrical Coplanar Waveguide (CCPW) Circuits," *Intl. Journal of Electronics*, volume 87, number 9, pp. 1083-1094, September 2000.
77. B. Lakshminarayanan, H. Gordon and T. Weller, "A Substrate-Dependent CAD Model for Ceramic Multi-Layer Capacitors," *IEEE Trans. MTT*, pp. 1687-1693, October 2000.
78. T. Weller, R. Henderson, K. Herrick, S. Robertson, T. Kihm and L. Katehi, "Three-Dimensional High Frequency Distribution Networks Part I: Optimization of CPW Discontinuities," *IEEE Trans. MTT*, Vol. 48, No. 10, October 2000, pp. 1635-1642.
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