

## Publication List for Malcolm H. Smith

### INVITED TUTORIALS

1. "The Design of CMOS Power Amplifiers", Presented at APCCAS 2016, Cheju, Korea
2. "SDR System Architectures", Presented at the ESSCIRC 2005, Grenoble, France.
3. "Advanced Technologies and Future RF Architectures", Presented at the RFIC Symposium 2005, Long Beach, CA.
4. "Filtering for RF Front-ends", Presented at the International Systems On Chip Conference 2004, Santa Clara, CA.
5. "Architectures for Software Defined Radio", Presented at the RFIC Symposium 2004, Fort Worth, TX.
6. "Cellular and WLAN Interoperability", Presented at the RFIC Symposium 2004, Fort Worth, TX.
7. "Multi-Band, Multi-Mode Systems and Architectures", Presented at the RFIC Symposium 2003, Philadelphia, PA.
8. "The Design Of Mixed-Signal Interface Circuits for Cellular Systems", Presented at ISCAS 2002, Scottsdale, AZ.

### INVITED PANEL SESSIONS

1. "Will there ever be a single World Standard?", at the RFIC Symposium 2003, Philadelphia, PA.

### PAPERS

1. Malcolm H. Smith, "CMOS and SOI for Front-end Modules", EDICON China 2017, Shanghai, China, April 25 – 27, 2016, Paper 33.
2. Malcolm H. Smith, "Linearity in CMOS Power Amplifiers", EDICON China 2016, Beijing, China, April 19 – 21, 2016, Paper 80.
3. N. Darbanian, S. Farahani, S. Kiaei, Bertan Bakkaloglu, and M Smith, "Tri-mode Integrated Receiver for GPS, GSM 1800, and WCDMA", Session RMO1A, 2006 RFIC Symposium, San Francisco, California, 11-13 June, 2006. pp. 11-14
4. Malcolm Smith, S. Kiaei, S. Farahani, N. Darbanian, A. Afsahi, H. Song, "Architecture, System, and Circuit Considerations for SDR Receiver Front-ends", Session 4.3, 2004 Software Defined Radio Technical Conference, Phoenix, Arizona, 15-18 November 2004
5. M.H. Smith, L.T. Walczowski, W.A.J. Waller, and D. Howard, "A Method for Sizing Transistors in CMOS Op-Amps", International Symposium on Circuits and Systems 1991, Singapore, 11-14 June 1991. pp. 2016-2019.
6. L.T. Walczowski, M.H. Smith, W.A.J. Waller, and D. Howard, "Device Sizing for Silicon Compilers Using CSL", Custom Integrated Circuits Conference 1991, San Diego, CA, 12-15 May 1991, Paper 22.2
7. W.A.J. Waller, M.H. Smith, L.T. Walczowski, and D. Howard, "ODIN: A Software System for Synthesizing CMOS Op-Amps", International Conference on Concurrent Engineering and Electronic Design Automation, CEEDA 91, Bournemouth, UK, 26-28 March 1991. pp. 74-79.
8. D. Howard, L.T. Walczowski, M.H. Smith, and W.A.J. Waller, "C.S.L. A Language for Process Independent V.L.S.I. Design", IEE Colloquium on "Object-Oriented Programming", Savoy Place, London, February 1991.
9. M.H. Smith, W.A.J. Waller, L.T. Walczowski, and D. Howard, "Specification Driven Synthesis of CMOS Op-Amps", IEE Colloquium on "Analogue VLSI", 1990/073, Savoy Place, London, May 1990.
10. D. Howard, W.A.J. Waller, L.T. Walczowski, and M.H. Smith, "Generation of ordered subcircuits for an automatic sizing program", IEE Proceedings-G, Vol. 137, No. 4, August 1990.
11. M.H. Smith, D. Howard, L.T. Walczowski, and W.A.J. Waller, "Automatic Device Sizing for Silicon Compilers", Journal of Semicustom ICs, Vol. 7, No. 3, March 1990. pp. 24-28.

### PATENTS

1. Malcolm Smith, "CMOS switching circuitry of a transmitter module", US Patent No. 8,843,083, September 23, 2014
2. Daniel Ho, Malcolm Smith, "Apparatus and Method for Sensing and Converting Radio Frequency to Direct Current", US Patent No. 8,766,724, July 1, 2014
3. Malcolm Smith, Ying Shi, "Methods and Circuits for Detuning a Filter and Matching Network at the

- Output of a Power Amplifier”, US Patent No. 8,731,490, May 20, 2014
4. Ronald Javor, Malcolm H. Smith, Nir Binshtok, and Eran Segev, “Method and apparatus for downconverting a plurality of frequency modulated signals from a carrier frequency to baseband”, US Patent No. 8,301,099, April 30, 2012
  5. Malcolm Smith, Chu Shiung Ho, Caesar See-Hoi Wong, and Baker Scott, “Saturated power amplifier system”, US Patent No. 8274336, September 25, 2012
  6. Malcolm Smith and Matthew Anthony Mow, “DC-DC conversion for a power amplifier using the RF input”, US Patent No. 8258875, September 4, 2012
  7. Ronald Javor, Malcolm H. Smith, Nir Binshtok, and Eran Segev, “Dual Antenna System having One Phase lock Loop”, US Patent No. 8,170,518, May 1, 2012
  8. Ronald Javor, Malcolm H. Smith, Nir Binshtok, and Eran Segev, “Dual Antenna System having One Phase lock Loop”, US Patent No. 7,398,068, July 8, 2008
  9. Ronald Javor and Malcolm H. Smith, "Dual Antenna Receiver", US Patent No. 7,245,655, July 17, 2007
  10. Malcolm H. Smith and Hongjiang Song, "Direct down-conversion receiver with transconductance-capacitor filter and method", US Patent No. 7,139,544, November 21, 2006
  11. Kevin W. Glass, and Malcolm H. Smith, “Biased Darlington transistor pair, method, and system ”, US Patent No. 7,091,788, August 15, 2006
  12. Ronald Javor, Malcolm H. Smith, Nir Binshtok, and Eran Segev, “Dual Antenna System having One Phase lock Loop”, European Patent No EP1625666, February 15, 2006
  13. Malcolm H. Smith, “Loop filter with active capacitor and method for generating a reference”, US Patent No. 7,005,929, February 28, 2006
  14. Bart R. McDaniel and Malcolm H. Smith, “Sigma-delta conversion with analog, non-volatile trimmed quantized feedback”, US Patent No. 6,891,488, May 10<sup>th</sup> 2005
  15. Ramin Khoini-Poorfard, Lysander Lim, Malcolm Smith, “Upsampling filter having one-bit multipliers for multiple spread-data streams”. Canadian Patent No. CA2320703, January 25<sup>th</sup> 2005
  16. Ronald Javor, and Malcolm H. Smith, “Multiple Antenna Apparatus to Provide Interference Detection and Cancellation”, World Patent Abstract No. WO2005006591, January 20<sup>th</sup> 2005
  17. Earnest E. Woodward and Malcolm H. Smith, “Strobe through differential signaling”, US Patent No. 6,842,133, January 11<sup>th</sup> 2005
  18. Earnest E. Woodward and Malcolm H. Smith, “Strobe through differential signaling”, World Patent Abstract No. WO2004099169, November 18<sup>th</sup> 2004
  19. Ronald Javor, Malcolm H. Smith, Nir Binshtok, and Eran Segev, “Dual Antenna system Having One Phase Lock Loop”, World Patent Abstract No. WO2004100388, November 18<sup>th</sup> 2004
  20. John A. Carelli, Jr. and Malcolm H. Smith, “Apparatus and method for determining process width variations in integrated circuits”, US Patent No. 6,728,940, April 27 2004
  21. Malcolm H. Smith, Valerie J. Risk, Mark K. Leshner “Tunable Filter with Bypass”, US Patent No. 6,618,579, September 9 2003
  22. Ramin Khoini-Poorfard, Lysander B. Lim, Malcolm H. Smith, “Upsampling filter having one-bit multipliers for multiple spread-data streams”, US Patent No. 6,603,804, August 5 2003
  23. Douglas D. Lopata and Malcolm H. Smith, “Baseband receiver including dual port DAC”, US Patent No. 6,424,284, July 23 2002
  24. John A. Carelli, Jr. and Malcolm H. Smith, “Apparatus and method for determining process width variations in integrated circuits”, US Patent No. 6,373,266, April 16 2002
  25. Lysander B. Lim, Malcolm H. Smith, and H. Scott Fetterman, “Clock doubler circuit with RC-CR phase-shifter network”, US Patent No. 6,369,622, April 9 2002
  26. Malcolm H. Smith, “Current comparator for current mode circuits”, US Patent No. 6,307,406, October 23 2001
  27. Malcolm H. Smith, “Power-up circuit for analog circuits”, US Patent No. 6,285,223, September 4 2001
  28. Douglas D. Lopata and Malcolm H. Smith, “Multiple output digital-to-analog converter”, US Patent No. 6,278,393, August 21 2001
  29. Malcolm H. Smith, “Power-up circuit for analog circuit”, US Patent No. 6,259,240, July 10 2001
  30. Ramin Khoini-Poorfard, Lysander B. Lim, Malcolm H. Smith, “Upsampling filter having one-bit multipliers for multiple spread-data streams”, European Patent No. EP1089432, April 4<sup>th</sup> 2001
  31. Ramin Khoini-Poorfard, Lysander B. Lim, Malcolm H. Smith, “Upsampling filter having one-bit multipliers for multiple spread-data streams”, Japanese Patent No. JP2001160796, June 12<sup>th</sup> 2001
  32. Douglas D. Lopata and Malcolm H. Smith, “Multiple output digital-to-analog converter”, European Patent

- No. EP1076418, February 23<sup>rd</sup> 2001
33. Douglas D. Lopata and Malcolm H. Smith, "Multiple output digital-to-analog converter", Japanese Patent No. JP2001077693, March 23<sup>rd</sup> 2001
  34. Malcolm H. Smith and Jiancheng Mo, "Clocking technique for reducing sampling noise in an analog-to-digital converter", US Patent No. 6,232,905, May 15 2001
  35. Malcolm H. Smith and Ross A. Kohler, "Sense amplifier for memory", US Patent No. 6,219,278, April 17 2001
  36. Malcolm H. Smith, "Testing analog circuits using sigma-delta modulators", US Patent No. 6,134,505, October 17 2000
  37. Kirk B. Ashby, Paul C. Davis, Malcolm H. Smith, and Michael D. Womac, "Integrated amplifier having a voltage-controlled current source", US Patent No. 6,114,912, September 5 2000
  38. Ronald L. Freyman, Bruce W. McNeill, Malcolm H. Smith, Gary H. Weiss, Charles R. Miller, "Using topological features to lower the blowing current needed for fuses", US Patent No. 6,028,756, February 22 2000
  39. Malcolm H. Smith, "Method and apparatus for tuning analog filters", US Patent No. 6,014,554, January 11 2000
  40. Malcolm H. Smith, "Mask programmable low power voltage/current-mode ADC", US Patent No. 6,008,749, December 28 1999
  41. Malcolm H. Smith, "Sense amplifier for flash memory", US Patent No. 5,999,454, December 7 1999
  42. Ronald L. Freyman, Bruce W. McNeill, Malcolm H. Smith, Gary H. Weiss, "Software programmable write-once fuse memory", US Patent No. 5,991,220, November 23 1999
  43. Ronald L. Freyman, Bruce W. McNeill, Malcolm H. Smith, Gary H. Weiss, Charles R. Miller, "Using topological features to lower the blowing current needed for fuses", Japanese Patent No. JP11317145, November 16<sup>th</sup> 1999
  44. Masanori Hayashi and Malcolm H. Smith, "Photoelectric Transduction Circuit", Japanese Patent No. JP10021479, January 23<sup>rd</sup> 1998

#### **THESIS**

- Malcolm Harold Smith, The Automated Design of CMOS Op-Amps, Thesis submitted for the Ph.D. degree in Electronic Engineering, The University of Kent at Canterbury, UK, 1992.

#### **WORKSHOPS ORGANIZED**

- 4G Receiver Design, RFIC Symposium 2004, Fort Worth, Texas.
- CMOS PA, RFIC Symposium 2009, Boston, Mass.

*Publication List for Malcolm H. Smith  
Cell +1 408 799 3236  
Email: analogsmith@gmail.com*