Lesley Smith

Garland, TX
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Work Experience

Principal RF Engineer

L3Harris (formerly L3/Mustang Technology) - Plano, TX
September 2018 to June 2021

Radar Net manufacturing build, debug, and test of Multi-Static X Band (8-12 GHz) Radar with low phase noise LO and 6 independent transmit & receive channels on a single pcb. High speed A/D converter outputs to FPGA for signal processing of radar data. Digital Board HFSS simulations of 24 layer pcb 2-18GHz transmit and receive radar signal transmitters and LNA receivers for Digital Aperture Technology (DAT). Vendor selection, PDR and CDR review of Arrow conformal ceramic antenna for hypersonic missile Height of Burst (HOB) function in presence of aerodynamic thermal heating of hypersonic realm of Mach 5+. Alamo manufacturing support, debug, and test of RF and power supply pcbs for US Navy 57mm Ka Band
(26.5-40 GHz) radar controlled maneuvering smart shell to defeat swarm tactics of small boats.

Senior RF Design Engineer

Abbott (formerly St. Jude Medical) - Plano, TX
January 2017 to September 2018

Design and HFSS simulations of BLE (Bluetooth Low Energy) 2.4GHz antennas and impedance matching networks for implantable and external pulse generators (IPG/EPG) for Neuromodulation simulation. Performed regulatory issues and BLE radio certification for US/Europe/Asia/Canada/Central and South America/Africa. High Performance Cloud Computing
(Rescale) of Electromagnetic analysis/simulations of IPG systems in human body models. LabView test generation to support production testing.

Senior RF Design Engineer

Firefly Space Systems - Cedar Park, TX
February 2016 to October 2016

Design and HFSS simulations of L-Band (1.6GHz) & S-Band (2.26GHz) conformal Active Phased Array Antenna (APAA) for new low cost launch vehicle telemetry link to TDRSS & Inmarsat satellites. Design and optimization of slot coupled patch individual radiating element used to form 1X6 and 1X8 columns, then placed in groups of 6X10 or 8X8 conformal arrays externally mounted to second stage orbiting vehicle. High Performance Cloud Computing (Nimbix) of Electromagnetic analysis/simulations of conformal arrays on vehicles using ANSYS HFSS. RF prototyping, Altium pcb layout, testing, and
LabView automated test generation.

Senior RF Design Engineer

Rockwell Collins Government Systems - Richardson, TX
September 2015 to December 2015

Responsible for RF systems, antennas, and circuits design. Worked with airborne 2-18 GHz Short Baseline Phase

Interferometer. Generated LabVIEW automated tests for production ATP testing of LRU’s. Performed anechoic chamber antenna and systems testing of ARFP (Antenna RF Processor) LRU’s, DPAU (Digital Pulse Analyzer Unit), and the Phase
Interferometer system. Performed tower/range testing of Phase Interferometer system ATP.

R&D Engineering Manager/Principal RF Design Engineer

Black Box Network Services/Innerwireless - Richardson, TX
March 2004 to September 2014

Principal RF Design Engineer and R&D Engineering Manager, supervising technical personnel performing design, prototyping, documentation, qualification, preproduction, and production support of broadband (150-6000 MHz) wireless components and DAS (Distributed Antenna System) components and systems. Annual budgets & expense tracking, product development schedules/tracking with vendor interfacing, personnel management & performance reviews.
Design, modeling, prototyping, testing, production support, documentation, and automated RF testing of antenna, diplexers, triplexers, cross-band couplers, 2-way & 4-way broadband power dividers. PCB artwork generation (gerber and drill files) and documentation of RF microstrip/stripline circuits. Patent and UL ratings of antennas and plenum spaced components. High power component design & analysis, PIM rated components (filters, diplexers, cables, assemblies), PIM performance component design, testing, & production support. 3D component and assembly modeling, CNC and sheet metal 3D design/ modeling, and 2D drawing/documentation using Solidworks; mechanical stress analysis using Comos, zinc casting of antenna & RF coupling components. Design of thermal-formed and injection molded antenna radome for plenum deployment, UL rated to V94-0. Designed and programmed automated RF production testing using Labview. Designed, prototyped, and documentated assembly and test fixtures for production line in Richardson.

Engineering Manager/Principal RF Design Engineer

Andrew/Decibel Products - Dallas, TX
November 1992 to January 2004

Principal RF Design Engineer and Engineering Manager (2002-2004) of Active Products Group, supervising technical personnel performing design, prototyping, documentation, qualification, preproduction, and production support of cellular and wireless products. Performed RF system and circuits design/analysis for VHF, UHF, 700 MHz Public Safety, 800-900 MHz cellular and paging, 1800 MHz GSM, 1900 MHz PSC, 2300 MHz WCS, and 2600 MHz MMDS products using Agilent
Technologies ADS, Ansoft HFSS, and Matlab/Simulink design software. RF system and circuits design/ analysis of power amplifiers, Low Noise Amplifiers (LNA's), Tower Mounted Amplifiers (TMA's), filters, duplexers, dual duplexers, power sensors, auto-tuning cavity combiners (Public Safety, Cellular, and PCS bands), receivers, and synthesizers. PCB design, layout, and documentation (gerber, drill, schematic, assembly, and test procedures) for RF circuits. Designed and programmed automated RF production testing using Labview software for production lines in Dallas, Mexico, Brazil, and China

Senior RF Design Engineer

Network Access Control, Inc. - Richardson, TX
November 1991 to November 1992

Performed system and circuits design/analysis of cellular Personal Communication Network mobile and base station 900-950
MHz transceivers to FCC Part 22 requirements. Analysis of urban/suburban propagation, path loss, multi-path, building penetration effects, carrier-to-noise ratio, and bit error rates. RF system and circuits design/ analysis of 900-950 MHz FSK transmitters, receivers, and synthesizers.

Staff Engineer

Chrysler Technologies Airborne Systems - Richardson, TX
October 1988 to July 1991

Performed system and circuit design of a Preamp/RF Distribution System (0.1 - 18.0 GHz) for the EC-20F Fleet Electronic
Warfare Support Group (FEWSG) development Gulfstream aircraft. Performed system design in collocating APG-63 and
APS-133 X-band radars in the Advanced Cruise Missile Mission Control Aircraft (CMMCA) aircraft. Responsible for system engineering and supervision of all Group B subsystems of CMMCA aircraft. Performed Path Loss/Link BER analysis of S
Band Telemetry system

Senior RF Design Engineer

RF Monolithics, Inc. - Dallas, TX
April 1986 to August 1988

Responsible for RF systems, sub-systems, and circuits design. Worked exclusively with SMD (Surface Mount Devices) to produce hybrid circuits and systems. Responsible for complete system and circuit design of a 915 MHz Spread Spectrum
Transceiver. Designed all transmitter and receiver circuits and components (receiver video, AGC, transmitter timing/interface, and data I/O circuits) and performed all Project Manager/Engineer duties. Performed sub-system and circuit design of 121.5 and 243.0 MHz down-converters, consisting of SAW Coupled Resonator Filters, low noise GaAs FET preamps with AGC, and high stability crystal LO's. Designed various VHF/UHF SAW oscillators and voltage controlled oscillators (VCSO's).
Designed SAW stabilized ECL oscillators. Performed research/analysis on various circuits, SAW oscillators, and SAW devices.

Electrical Design Engineer

Electrospace Systems, Inc. - Richardson, TX
March 1978 to April 1986

Performed system and circuit design of a Preamp/RF Distribution system (.02 - 18.0 GHz) for USN FEWSG (Fleet Electronic
Warfare Support Group) aircraft. Designed a single chip microprocessor controlled board to interface between aircraft navigational systems and HP computers, writing assembly language programming code for the interface board. Designed and prototyped a microprocessor controlled receiver controller, controlling 2 Racal RA-6790/GM receivers. Designed interface circuitry allowing receiver controller to communicate with existing AN/FLR-9 systems. Also developed the software and programmed the Intel 8085A microprocessor used in the receiver controller. Responsible for design of 100 KHz side scan sonar system, primary emphasis on design of solid State 2 KW transmitter, 100 KHz receiver, and up/down cable multiplexer.
Assisted in Jamming Modulation Analysis efforts, modifying a TPS- 33 Ground Surveillance Radar used as a threat simulator.
Responsible for designing X band sidewall couplers, X band horn antennas, external thyratron driver circuits, staggered PRF generators, ECL oscillators, PIN diode modulator drivers, and various fiber optics drivers and receivers.

Electrical Design Engineer

Texas Instruments, Inc. Equipment Group - Dallas, TX
January 1973 to March 1978

Design of a 120 MHz, 1 or 25 Watt selectable, solid state FM marine transmitter. Designed test equipment for testing of transmitters, transceivers, Loran C receivers and preamplifiers.
Designed digital, analog, and RF circuits in special RF communication systems (VHF/UHF). Performed communication systems design and evaluation. Designed both AM and FM low power (100 milli-Watts - 1 Watt) transmitters, AM and FM receivers, SAW (Surface Acoustics Wave) oscillators, digital frequency synthesizers, and phase-locked timing control generators. Designed digital and analog circuits on MRCA (Multi-Role Combat Aircraft) Tornado Ground Mapping/attack
Radar (GMR) and Terrain Following Radar (TFR) Ku band receivers. Performed systems test on Ku band waveguide package, mixers, LO, and 60 and 30 MHz log amp assemblies. Performed antenna range testing of Ku band (150 element) flat-plate phased array antenna used on MRCA Ground Mapping/attack Radar.

Education

BSEE MSEE
Louisiana State University

Skills

- Capable of programming in: 80X86 assembly
  C
  Basic

Certifications and Licenses

Status Active Clearance Secret (Department of Defense)