

**OBJECTIVE**

To apply my analysis and design skills to projects in RF and microwave systems development.

**EXPERIENCE**

**Cadence Design Systems/Nokia-Adevecta, Nokia Networks, Irving, TX**

*Sr. RF Systems Engineer*

**10/00-present**

Research & Development of Base Transceiver Station systems for 3G wireless GSM/ EDGE/ GPRS applications. Responsible for hardware and software design compliance with 3GPP requirements including transceiver designs with GSM/ GPRS/ EDGE modulations. Developed automated tests systems for measuring RF performance at TRX unit and basestation level: Modulation Accuracy-Error Vector Magnitude, Phase Frequency Error, Mean Transmitted RF Carrier Power, Transmitted Carrier Power versus Time, Spectrum due to modulation, Wideband noise, Switching transients, Spurious emissions, Intermodulation Attenuation, Intra BTS Intermodulation. Worked on the assessment team for Capacity Maturity Model Integrated (CMMI-C) of BTS software and systems.

Applied PRONTO fault management, reliability analysis, and corrective action processes in the BTS R&D development. Specified RF performance for BTS sub-systems – duplexers, remote tune combiner, wideband combiner. Performed Type Approval testing in compliance with U.S. FCC and European agency standards.

**Motorola SpectraPoint Wireless LLC, Richardson, TX**

*Electrical Staff Engineer*

**10/99- 10/00**

Developed millimeter wave (mmW) transmitter/receiver products for Local Multipoint Distribution Systems used in commercial wireless applications. Developments included development of design specifications, GaAs pHEMT MMIC designs, frequency up and downconverters, mixers, waveguide filters, Quadrature Phase Shift Keying digital modulation, L-band IF signal processing, IEEE-485 control systems and high volume telecom assembly processes. Diode characterization processes were developed for a digital Automatic Loop Control for mmW transmitter power at 1 W at 26-28 GHz.

**Under contract to Raytheon (Formerly Texas Instruments), Lewisville, TX**

*Senior Systems Engineer*

**10/95-10/99**

\*Systems Engineer for Classified Program, HARM Targeting System (HTS), Extended Range Guided Missile (ERGM). Extracted system requirements from customer specifications to establish requirement allocations, and sub system partitions. Performed engineering analysis using integrated development tools- SLATE, Mathcad, MATLAB, EEsof Omnisys and Touchstone of special microwave components including downconverters, Stable LO and signal processing electronics to establish system design margins. Developed low drift GaAs HBT amplifiers. Allocated requirements to critical RF/IF components, EEPROM control circuits computer hardware and software applications to achieve design performance.

**Under contract to ITT Aerospace, Fort Wayne, IN**

*Project Engineer/Senior Microwave Design Engineer*

**2/13/95-10/95**

Senior Design Engineer for the ALPHA microwave radar receiver program for space. Responsibilities included microstrip circuit designs with 50dB dynamic range Low Noise Amplifiers from 200 MHz to 18 GHz, MMIC custom amplifier designs, IF mixer conversions designs, video processors, design verification, qualification testing, and reliability assessments to meet space requirements including worst case analysis using EESof Series IV Libra/Touchstone/Omnisys design tools.

**TRAK Microwave Corp., Tampa, FL**

**5/1/89-7/15/94**

*Project Engineer/Senior Microwave Design Engineer*

Project Engineer/ Senior Design Engineer for microwave oscillator/multipliers for space programs: TIROS, DMSP, INTELSAT VIII, KOREASAT, TELSTAR. Negotiated design specifications, designed circuit for frequency bands of S, C , Ku and X., developed parts screening procedures, performed design verification, qualification testing, and defined reliability assessments including worst case analysis using EESOF Libra/Touchstone. Analyzed reliability and maintainability of microwave frequency agile synthesizers and directed design improvements to meet avionics requirements for Combat DF and ELS.

**EDUCATION**

...1993 Post Graduate MSEE courses at University of South Florida (21hours,GPA =3.9/4.0)  
Master of Science, Engineering, Southern Methodist Univ. (GPA= 3.5/4.0)  
Bachelor of Science, Physics, Oklahoma State University

**MILITARY SERVICE/ SECURITY CLEARANCE**

U.S. Army, 5th Division Mechanized.

DOD Secret at Raytheon and previously at TRAK Microwave; DOD Top Secret at Honeywell and Lockheed Martin

**TECHNICAL PAPERS**

ISHM, "An Electronic Fuze for the 25,000 g Environment"  
1993 RF Expo,"Microwave Circuits for Geosynchronous Space Applications"

**PROFESSIONAL SOCIETIES:**

IEEE Senior Member; Aerospace & Electronic Systems Dallas Chapter Chairman. Member of International Council of Systems Engineers (INCOSE). Amateur radio technician license, KB9KKL.