JOSEPH J. BOUCHEZ

(214) 564-2438 | www.ls35designs.com | jbouchez@LS35Designs.com

PROFESSIONAL PROFILE

- MMIC & PCB circuit design through 40 GHz, including RFPA, LNA, VCO, and VPIN limiter designs
- Translate system requirements into hardware requirements
- RF transmit and receive chain analysis, budgeting, and troubleshooting
- CCA/PCB design and modernization: component selection, simulation, schematic capture, and layout
- DC to 50 GHz RF test and evaluation, including RF characterization, integration, and verification
- Active Secret clearance; current in-scope 5-year background investigation
- Perseverantia et determinatio successum aequant

Technical Highlights

Publications: **"**A 2-5GHz 100W CW MMIC Limiter using a Novel Input Topology**",** Compound Semiconductor Integrated Circuit Symposium (CSICS), 2013 IEEE

Software: MWO, Cadence PSpice, ORCAD Presto X, & Microsoft Office: Word, Excel, & PowerPoint

Hardware: PNA-X, Spectrum Analyzers, Power Meters, Signal Generators, & Oscilloscope

Testing: On-wafer & fixtured microwave testing: small-signal, power, efficiency, linearity, noise figure, etc.

US Patents

- 9,270,246 B1; 100W S-Band High Power Limiter (Primary)
- 9,455,571 B2; Power Limiter (Primary)
- 9,367,711 B1; Battery Assisted RFID Tag with Square Law Receiver and Optional Part Time Active Behavior

Why Hire Me? I solve problems!

- **Problem Solving:** I approach hard engineering problems from new angles, challenge conventional solutions, and take calculated risks to achieve the best solution when required.
- **Execution & Results:** I focus on disciplined execution, high-quality work, and delivering results that exceed expectations while meeting schedule and budget requirements. Commitments made, Commitments kept.
- **Persistence:** I approach difficult problems with determination, follow-through, and the resolve to Press On until the problem is solved.
- **Leadership & Collaboration:** I work effectively across teams and disciplines while providing leadership and guidance when needed.

Professional Experience

LoneStar III Five Designs ***Owner & Pr. Electrical Engineer*** (June 2017- Present)

- Characterize Jariet MX2 0.1 - 36 GHz Transceiver to develop RF frontends for a software defined radio
- Derived T3CAS TX & RX hardware requirements from FAA MOPS system requirements using DOORS for new product development
- Developed T3CAS TX & RX block diagrams, including signal-chain analysis, component selection, and cost reduction
- Designed 6-Bit Ku-band GaAs MMIC Attenuator to meet technical & schedule requirements
- Supported E6 PCB modernization: part selection, layout, prototyping, & manufacturing test and build support
- Performed 1–50 GHz MMIC testing, including Pout, NF, SPAR, & harmonic
- Performed PCB RF testing through 26 GHz: Pout, NF, & SPAR
- Designed 5-50V, 15A DC pulse modulator for PA testing: part selection, prototyping, and datasheet development
- RF transceiver & power supply troubleshooting and root-cause analysis to meet deliverable requirements
- Developed test fixtures & test plans for engineering verification and manufacturing validation

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Professional Experience

VARIOUS SCHOOL DISTRICTS ***Algebra 1 Teacher/Assistant Football Coach*** (Oct 2013 – June 2017)

- Taught Algebra I to HS students to give back to my community

TRIQUINT SEMICONDUCTOR ***MMIC Design Engineer*** (Nov 2009 - Sept 2013)

- Designed & tested GaAs pHEMT MMIC amplifiers (S-Band LNA, 10-20 GHz 4&5-bit Attenuators, 2-5 GHz 100W CW Limiters) to add to TQS standard products
- Evaluated GaN MMIC performance in long-term RF testing and provided feedback to enhance reliability to get DoD Trusted Foundry accreditation

MAXIM INTEGRATED PRODUCTS ***Senior Member Technical Staff*** (Jun 2005 - Sept 2009)

- Designed & tested discrete battery assisted passive class 3 RFID tag based on the ISO/IEC 18000-6c standard to add a new product line to increase the company's revenues

L-3 COMMUNICATIONS TELEMETRY WEST ***RF PA Design Engineer Consultant*** (Jan 2005 - May 2005)

- Designed & tested 30W Class AB Power Amplifier to meet customer technical & schedule requirements

INPUT/OUTPUT ***RF Design Engineer*** (May 2004 - Dec 2004)

- Designed VHF & UHF Seismic transceivers to improve current product designs to meet customer requirements

LOCKHEED MARTIN ***MMIC Design Engineer and Technical Lead*** (Dec 2001 - May 2004)

- Designed & tested GaAs pHEMT amplifiers (LNA, Oscillators, VPIN Switches) for phased array radars to customer's specifications
- Wrote technical proposals with business development to acquire new business
- Managed a $2 million Office of Naval Research program to reduce current MMIC design size

CLEVELAND MEDICAL DEVICES ***Wireless Design Engineer and Technical Lead*** (Jun 1999 - Oct 2001)

- Transceiver design team technical lead to develop an indoor "Wireless Hospital" system
- Managed a $750K Phase II Air Force SBIR to develop aircraft telemetry transceivers

RAYTHEON ***Microwave Design Engineer*** (Jun 1997 - Jun 1999)

- Tested & characterized module & MMIC Power Amplifiers for space applications

US NAVY ***Electronics Technician First Class Petty Officer*** (Dec 1985 - Apr 1995)

- Maintained, repaired, and serviced RF communication and radar systems to ensure ship's combat readiness
- Awarded Navy Achievement Medals (3) & Army (1) for out of the box thinking to solve unconventional problems during combat operations & training exercises

EDUCATION

UNIVERSITY OF TEXAS, ARLINGTON TX May 2000
Master of Science in Electrical Engineering

PURDUE UNIVERSITY, INDIANAPOLIS, IN May 1997
Bachelor of Science in Electrical Engineering