Wayne L. Wagner, Jr.

xxxxxxxxxxxxx
Grayslake, Illinois 60030
xxx-xxx-xxxx
xxxxxxxxxxxx@xxxxx.xxx

SUMMARY: Dedicated, well-organized RF Engineer from Motorola's Mobile Devices division, supporting multiple projects from conception through world-wide production, in the following roles: Antenna Developer, Technical Lead for RF-Integration, RF Designer, and Type-Approval Engineer. Attention to Six-Sigma, as well as professional military experience, enables me to ensure the timely and cost-effective development of quality products.

PROFESSIONAL EXPERIENCE:

01/99-Present Senior Staff Electrical Engineer: Motorola, Mobile Devices, Libertyville, Illinois.

Antenna Developer for Aura GSM Cellular Project

- Implemented custom antenna for quad-band coverage; analyzed test data and performed dimensional optimization for highly constrained volume & metal housing.
- Interfaced with mechanical engineers to ensure proper grounding, suitable materials, and the elimination of unwanted coupling between the antenna & nearby metal objects.
- Hand-fabricated multiple 3-D antenna models to test, tweak, & debug the initial design; incorporated a Bluetooth chip antenna to reside within the volume of the main antenna.
- Managed a summer intern; trained & supervised a technician using four test chambers.
- Evaluated units for TRP, TIS, HAC, and SAR to achieve ship acceptance "on time."

Technical Lead for the RF-Integration of GSM Product: Razr V3i

- Facilitated and maintained project schematics; led design reviews
- Investigated & resolved PA-related hardware and software issues.
- Engaged vendors on RF chipset issues for the PA & Transceiver Modules.
- Managed PA table defaults such that DPHU & Cpk met Six-Sigma requirements.
- Performed test-engineer tasks; mentored engineers in receiver & conformance testing.
- Managed three technicians conducting broadband receiver desensitivity.
- Supported field returns, second-source qualification, and component type-approvals.

Designer: Quad-Band SAW Filter Module on Razr V3 and V3i Products

- Characterized SAW Filters and collaborated with vendors to design and produce the prototype modules; validated prototype SAW Filter Modules
- Integrated modules into Razr V3 project; subsequently my module design was used across all GSM Neptune LTS products.
- Earned component-price reduction after sale of 1 million SAW module units.

RF Design Support for Additional GSM Projects

- Created tools in LabVIEW to automate tasks and streamline data collection.
- Analyzed field failures and identified root causes to assist action plans worldwide; performed Worse Case and Tolerance Analysis on Receiver to ensure Cost Reduction.
- Conducted Antenna/Receiver Desense Troubleshooting and identified solutions.
- Reduced PA drain current & voltage dips to improve talk-time & avoid dropped calls.
- Presented technology seminars.
- Built and managed an Automated Test Bench.

Product Integration Engineer for Multiple, Pre-Market GSM Projects

- Conducted space studies for optimum component layout and signal integrity.
- Planned the RF and logic circuit layout on HDI and FR-4 type PCBs to meet EMC requirements; integrated RF/IF circuitry for LNAs, mixers, filters, VCOs, and PLLs.
- Optimized schematics & BOM from a quality standpoint.
- Evaluated Bluetooth and Wi-Fi solutions for layout, software-compatibility, coexistence, and cost; interfaced with Strategic Components Team to drive my product's roadmap.
- Managed GSM Tx line-up: input relevant updates for ESD & RF bypassing needs.
- Assisted technician with manual testing of 300 prototype units for software development; streamlined test scripts to reduce overall test-time and effort by 75%.

Type Approval (TA) Engineer for GSM Regulatory Approvals of V3 and V3i Products

- Supported regulatory approvals for launching millions of Razr units in world markets.
- Validated conformance specifications for prototype builds; identified performance issues and test-bench deficiencies; hand-carried prototypes to Germany's ADR lab.
- Analyzed and root-caused various radio layer and test-bench problems.
- Created and published a comprehensive test-plan matrix for validating radio performance; engineers across multiple projects adopted this test planner.
- Drove cross-functional teams to closure of final issues with strong, timely results.

01/87-02/95 United States Navy: Electrician's Mate 1st Class, Naval Nuclear Propulsion Program

- Excelled in a senior-level management position in charge of electrical operations.
- Qualified as Shutdown Reactor Operator & Senior Electrical Operator aboard ship and prototype facilities; operated and maintained complex nuclear propulsion systems.
- Performed quality control inspections of electrical and radiological systems.
- Supervised trainee qualification paths as an Electrical Training Program Instructor.

EDUCATION:

MSEE, National Technological University, Ft. Collins, Colorado, December 2004
Concentration in RF Communication Systems and Electromagnetics
GPA 3.20 / 4.00

BSEE with Honors, University of Illinois, Urbana-Champaign, Illinois, December 1998
Concentration in Microwave Circuits, Antennas, and Electromagnetics
GPA 3.72 / 4.00

Nuclear Power Training Program, U.S. Naval Reactor Training Facilities, October 1988
Studied nuclear propulsion theory/operation and electrical theory/applications.

COMPUTER EXPERIENCE:

ADS, LabVIEW, xFDTD, Cadence, Mentor Graphics, Matlab, Visual Basic, C, HTML

PROFESSIONAL AFFILIATIONS:

- IEEE Microwave Society; IEEE EMC Society; IEEE Antennas and Propagation Society
- Licensed Professional Engineer Intern