SURYAKANTA MANGARAJ

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To excel in a challenging role within the RFCT field, utilizing my skills, education, and work experience to the fullest extent.

EXPERIENCE

RF Software Engineer III, Viasat India Pvt. Ltd.   **Aug 2023 – Till Date**

- Developed an automation suite for all test and measurement equipment.

- Created drivers for all instruments using .NET, ensuring seamless integration and functionality.

- Designed IVI standard drivers to streamline automation and standardization.

- Developed the drivers for RF-related measurements, implementing the underlying mathematics.

- Developed RF measurement methodologies for enhanced test accuracy.

- Implemented RF calibration routines for precision of RF instruments.

- Conducted RF circuit analysis and troubleshooting.

- Validated RF test procedures on satellite communication systems.

- Utilized Python and SCPI commands for program-related automation.

- Collaborated with cross-functional teams to validate the test suite as per requirements.

- Applied AI/ML techniques to analyze and validate test data and system specifications, driving data-driven decision making.

- Leveraged Git and CI/CD for smooth software deployment.

- Contributed to the design and development of software tools, test architectures, and processes.

- Worked closely with product development teams to enhance test coverage, methodologies, and processes, thereby accelerating the qualification of test instruments and software products.

RF Engineer II (RF Product Development and Testing), Honeywell   **Nov 2021 –**
Technology Solutions Lab Pvt. Ltd.   **Aug 2023**

- Simulated and analyzed RF systems for Tx/Rx line-up compliance with industry and internal standards, including MOPS (DO-160).

- Performed test characterization and validation to ensure compliance with the standards after the simulation and analysis.

- Developed the schematic for board-level design.

- Provided design guidelines and reviewed PCB and flex layouts with the layout team.

- Drove the execution of HW design-to-cost innovation using state-of-the-art technology.

- Worked with failure analysis (FA) to determine root cause of any reliability and qualification failures.

- Created and maintained RF component specifications, collaborating with component engineers and vendors to develop components for the obsolescence program.

- Utilized AI and ML techniques to optimize the architecture of new products and drive innovation in the aerospace industry.

RF Engineer (RF Product Development and Testing), VVDN Technologies Pvt. Ltd.   Nov 2020 – Oct 2021

- Derived transceiver (Tx/Rx) chain requirement specifications from system requirements by using an RF link budget.

- Drove and performed HW verification, integration, bring-up, and performed data analysis.

- Collaborated with software engineers to develop CFR and DPD algorithms for linearizing amplifiers in different communication systems, including massive MIMO and OFDM.

- Collaborated closely with software and FPGA engineers to establish a connection between the RF front end and the PHY and MAC layers.

- Created and maintained specifications for RF components and collaborated with vendors to drive component development.

- Designed and developed the test suites for automation.

- Conducted hands-on disassembly and experimental modifications to intricate hardware.

- Tested and debugged design issues from early development stages to productization.

Application Engineer (RF Test and Measurement Instruments), GSAS Microsystems Pvt. Ltd.   Apr 2018 – Nov 2020

- Provided technical expertise and support to internal teams, conducted internal technical training, maintenance seminars, and workshops for field engineers and customers.

- Provided pre-sales and post-sales support for global customers, while leading field support activities and coordinating with other internal functions.

- Troubleshot RF Systems Tx/Rx performance issues for 5G, LTE, and legacy cellular wireless standards based on 3GPP and ORAN specs to reproduce and resolve customer technical problems in the lab.

- Was responsible for on-site support activities such as installation, implementation, and maintenance of company and multi-vendor systems solutions, which includes wireless communication testers, RF test and measurement instruments, OEM, and 3rd party software.

- Resolved a broad range of hardware and/or software problems of varying scope and complexity through troubleshooting, debugging, and diagnosis.

- Ensured customer satisfaction with prompt support.

SKILL SUMMARY

- Design Tools: Keysight ADS, Cadence AWR, MATLAB, NI LabVIEW, Allegro, Virtuoso, OrCAD, Mentor Graphics Xpedition (DxD - HyperLynx), Altium Designer, LTSpice

- Scripting: Python, Linux/Unix shell scripting, Tcl/Tk scripting

- Programming Languages: C, C++, C#

- Testing and Measurement Tools: Oscilloscope, Logic Analyzer, Signal Generator, Power Supply