SARAVANAN TIRUNELVELI KANTHI

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PROFESSIONAL SUMMARY

Embedded software engineer with 8+ years of experience in developing Firmware/Low-level drivers for RF/Mobile communication chipsets catering to WCDMA, LTE,& NR-5G standards. Extensive experience in HW-SW systems integration, HW-SW bring-up and debugging in RTOS environments.

EDUCATION

Georgia Institute of Technology, Atlanta, GA *Aug 2007 - Dec 2009*
M.S. in Electrical & Computer Engineering GPA: 3.64/4.00
Thesis: SAR A/D & 3.5GHz RF Tx design in 90nm CMOS
Link: https://smartech.gatech.edu/handle/1853/33884

Anna University, Crescent Engineering College, Chennai, India *Aug 2002 - May 2006*
B.E. in Electronics & Communication Engineering GPA: 91%

TECHNICAL STRENGTHS

Programming Languages	C, C++ & Python
Communication Protocols	WCDMA, DC-HSDPA, LTE, LAA, LTE-U & 5G NR
Embedded Processors	ARM v5, v7, v11, Cortex M3/M4 & Q6-DSP
Tools	Git, Vim, Emacs, Perforce, SlickEdit, GCC & GDB
Domain Knowledge	Embedded Systems, DSP, RF engineering & ASIC design

PROFESSIONAL EXPERIENCE

Qualcomm Technologies, Inc Nov 2015 - Present
Staff Engineer *San Diego, CA*

- Defined the SW architecture for the receive chain operation in 5G NR Sub6 and Millimeter-wave in Qualcomm flagship 5G modems - SDX50 and SDX55.
- Established call flows and designed them to fit within the timeline needs of 5G NR Millimeter-wave.
- Continuously worked with multiple teams - firmware, RF systems, Modem systems - to understand the scope of any feature, design the call flow, and set the expectation for deliverables.
- Designed SW task plans to project the resource needs to meet certain milestones before the arrival of RF chipsets.
- Developed SW drivers to control feedback loops like Rx AGC (Automatic Gain control), AFC (Automatic frequency correction), and Beam management.
- Developed FW drivers to precisely control the timing of each feedback operation, in strict adherence to the tight timeline requirements of 5G NR.
- Core player in enabling LAA software developments and helped drive the adoption of Qualcomm modem solutions with LTE-U/LAA technology.
- Developed LTE AS DIV (Antenna Switch Diversity) feature for customer specific hardware suited to their unique requirements - Apple & Samsung.
- Collaborate extensively with cross-functional teams in developing features to utilize the new features offered by the chipset.
- Received 8+ Qualstar awards for outstanding contribution to LTE/5G/WCDMA/IOT efforts.

Qualcomm Technologies, Inc Nov 2012 - Nov 2015
Senior Engineer *San Diego, CA*

- Developed low-level device drivers for enabling 3G/4G mode of operation in multiple RF chipsets RTR86xx, WTR16xx, WFR16xx, WTR39xx, and WTR5975.
- Designed a concurrency management module to facilitate Qualcomm dual-sim features like DSDA, DSDS & DR-DSDS.
- Designed & developed the RFFE protocol interface for Qualcomm hardware and established an acceptable metric for external vendor chipsets.
- Interact with customers to gather requirements for their specific feature requests and design them.
- Provide the first line of support to debug customer reported issues reported from their field tests, and resolve them.
- Developed SW tools to automate testing of Qualcomm prototype device on R&S CMW 500 test platform.

Qualcomm Technologies, Inc June 2010 - Nov 2012
Engineer *San Diego, CA*

- Part of the WCDMA technology core team, designated to work closely with customers to design, develop, bring-up, and debug RF device drivers.
- Developed low-level device drivers for Qualcomm multimode RF chipsets with focus on 3G WCDMA/4G LTE.
- Develop WCDMA RF features as per customer requirements and RF systems team recommendation.
- Performed RF board bring up for 3G/4G technologies.
- Implemented process improvements for monitoring the Jenkins status and health of RF drivers at any given point of time.

Georgia Institute of Technology Electrical & Computer Engineering Jan 2008 - Dec 2009
Graduate Research Assistant *Atlanta, GA*

- Performed measurements and characterization of RF chipsets in Millimeter-wave frequencies.
- Developed SAR ADC circuit to pair with a 3.5 GHz Transmitter circuit as a feeder circuit to 60 GHz transmitter. Verified this design on 90nm CMOS technology and presented as my thesis.
- Developed test framework, wrote embedded device drivers to probe the Millimeter-wave test bed at various points and tap out the signals through a GPIO.

Wipro Technologies August 2006 - June 2007
Project Engineer *Chennai, India*

- Debugged and resolved issued reported by customers using HP multi-function printers.
- Developed the embedded drivers for the Áuto-Resolveín MFP (Multi-function printers),to automatically detect a paper-jam scenario and fix the same.
- Managed integration of various software components for major software updates to enterprise HP printers.

REFERENCES

Available upon request.