Pardha Saradhi Chandana

RAN Test Engineer

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EXPERIENCE SUMMARY

- 4 years of experience in LTE/5G RAN testing, feature validation, and log analysis using tools like QXDM and Wireshark.
- Experienced in 5G NR RAN (gNB) and LTE, DU, CU, E2E System Test validation on feature, functional, performance, & stability scenarios.
- Looking for an opportunity to work in a 5G/LTE area to upgrade my skills and professional experience.

AREAS OF EXPERTISE

- *Wireless Technologies*
  - **4G/5G RAN**: LTE (TDD & FDD), VoLTE, 5G SA (TDD & FDD), SA-NSA Coexist (FDD), Carrier Aggregation (4CA DL/2CA UL), X2/S1 Handover.
  - **ORAN**: CU/DU/RU deployment, multi-vendor integration.
  - **Protocol Stack**: RRC, PDCP, RLC, MAC, PHY layers.
- *Testing & Validation*
  - **Functional Testing**: Sanity, Regression, Patch, Throughput, KPI, Stress Testing (long-hour/sweep tests).
  - **Feature Validation**: Intra/Inter DU Handover, Initial Attach, CMAS, ETWS.
  - **Simulators & UEs**: TM500, Dingli, Commercial (OnePlus, Samsung), Telit, COMPAL.
- *Log Analysis & Debugging*
  - **Tools**: QXDM, QCAT, PCAT, XCAL, Wireshark, TCP Dump.
  - **Key Tasks**: Conduct root-cause analysis for HO failures and throughput issues; monitor KPIs and counters.
- *Test Automation & Tools*
  - **Programming**: Python (test automation, DSA), Kubernetes (manual testing).

PROFESSIONAL EXPERIENCE

Mavenir Systems   **Bangalore, India.**
Member of Technical Staff - I   Feb 2023 – Present.
Client: DTAG (Deutsche Telekom AG), VMO2 (Virgin Media O2)

LTE SA Feature Testing and Optimization:

- **Expertise in 4G RAN Testing & Validation** – Extensive experience in LTE feature testing (Attach, VoLTE, Handovers—X2/S1/Intra-Inter DU, Carrier Aggregation up to 4CA DL/2CA UL), ORAN architecture validation, and performance testing (KPI, throughput, latency).
- **End-to-End Debugging & Log Analysis** – Proficient in troubleshooting HO failures and throughput issues using tools like Wireshark, QXDM, XCAL, and PCAT to perform root-cause analysis and drive resolutions.
- **Feature Optimization & Customer Support** – Led optimization of CMAS, ETWS, and MDT features. Recreated customer-reported issues and validated stability under mixed traffic loads, ensuring seamless service continuity.
- **Test Strategy & Automation** – Developed test cases, executed negative/regression testing, and reduced downtime by 25% via pod recoveries, cell reboots, and automation. Validated long-run stability and TCP/UDP throughput with delay emulators.
- **Cross-Functional Collaboration** – Worked closely with R&D and SE teams to resolve complex issues, reviewed test plans, and supported parallel feature testing for multiple customers, ensuring compliance with 3GPP standards.

- **Performance & Robustness Testing** – Conducted sweep tests, counter tests on eNodeB using real UEs, enhancing network stability by 10% through throughput tuning and emulator adjustments.

5G NSA-SA Coexistence Testing & Validation:
- **NSA/SA Mobility & Regression Testing:** Validated SCG/MCG mobility, OAM integration, and call flows.
- **Throughput Optimization:** Achieved 1.4 Gbps DL/250 Mbps UL via Carrier Aggregation (3CA DL/2CA UL), improving latency by 20%.
- **5G Feature Validation:**
  - **Implemented 5G RAN Slicing for SA-NSA Coexistence:** Developed and validated RRM policies for DU/CU to ensure resource isolation for high-priority SA slices while managing NSA traffic via a default slice.
  - **Engineered Slicing Enhancements for DTAG:** Enabled **SLA(**Service **Level Agreement)** adherence for eMBB and enterprise slices by integrating feature flags and configuring dedicated/min/max parameters across the CU/DU, ensuring seamless SA and NSA traffic coexistence on a shared RAN.
  - **Orchestrated end-to-end measurement gap coordination between 4G Master (MeNB) and 5G Secondary (SgNB) nodes in EN-DC networks** via X2AP signaling to prevent conflicting UE configurations and ensure seamless mobility.
  - **Managed the lifecycle of UE measurement gaps** (setup, maintenance, release) from the Master node, ensuring reliable inter-frequency and inter-RAT measurement reporting while optimizing data throughput.
- **Root-Cause Analysis:** Debugged 10+ field issues (SCG failures, anchor-NR selection) using QXDM/Wireshark.
- **Regression & Stability:** Executed 150+ test cases (72-hour long-run, mixed traffic) for DTAG's NSA-SA migration.
- **Cross-Functional Collaboration:** Accelerated defect resolution for 3GPP Rel-16/17 features (CA combos, MR-DC).

Mavenir Systems   **Bangalore, India.**
Graduate Engineer   Feb 2022 – Jan 2023.
Client: NEC, DTAG (Deutsche Telekom AG)

5G RAN Testing and Validation:

- **5G SA/ORAN Validation & Feature Testing -** Executed end-to-end 5G SA validation across ORAN architecture (CP/UP/DU/RU), including Inter/Intra DU Handover, attach, and throughput testing, ensuring system stability and performance. Verified NR features like mobility (Inter/Intra DU HO) and cell reselection scenarios.
- **Protocol Layer Debugging & Optimization -** Performed deep analysis of 5G NR protocol stacks (RRC, PDCP, RLC, MAC, PHY) using tools like QXDM, Wireshark, and XCAL to debug Layer 1/2 issues such as attach failures and handover anomalies.
- **Test Automation & Environment Orchestration -** Automated the deployment and testing of containerized 5G network functions (CU/DU) using Docker, Kubernetes, and Jenkins CI/CD pipelines. Leveraged proprietary automation frameworks to orchestrate load upgrades, performance benchmarking, and stability testing, streamlining full regression and validation cycles.
- **System Stability & Long-Run Validation -** Achieved 30% improvement in system stability via rigorous long-run/mixed traffic testing, troubleshooting customer-reported issues, and validating robustness under stress (e.g., call loads, throughput, latency).
- **End-to-End Troubleshooting & Reporting -** Led feature commercialization by recreating field issues, analyzing logs, and providing detailed root-cause reports. Verified stability, throughput, and cell reselection, ensuring compliance with 3GPP standards.

EDUCATION

CMR Institute of Technology (CMRIT)   *Aug 2017 – May 2021*
Electronics and Communication Engineering

CERTIFICATION AND HONOURS   .

Spotlight award for **"Customer Focus"**   *Mavenir Systems (2024)*
Python for Everybody   *Udemy (2021)*