

GOALS

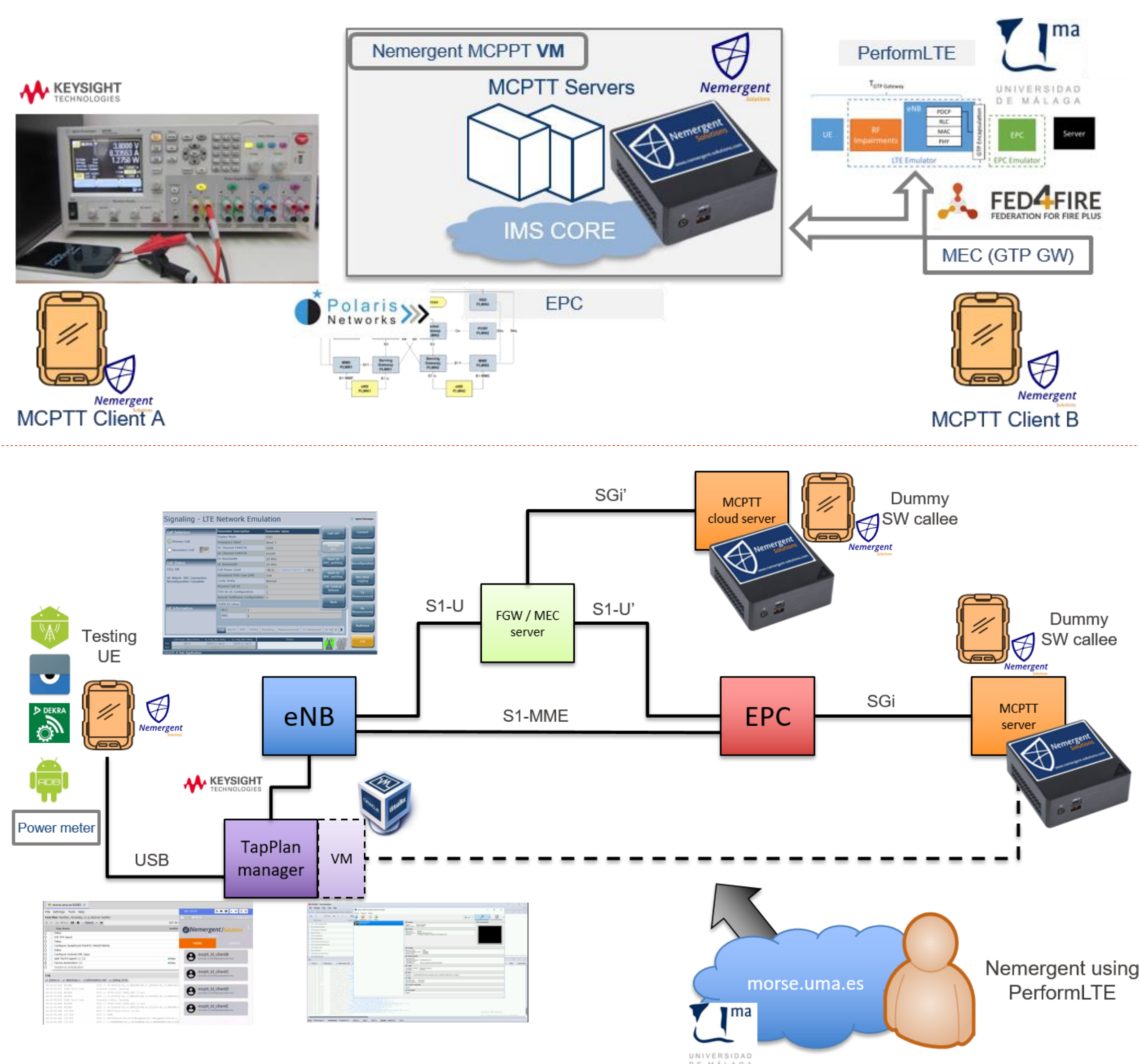
Evaluate the performance of next generation Critical Communications (3GPP's Rel'13 MCPTT).

- Delay and other service-level KPIs are challenging.
- MCPTT deployment testing in close-to-reality scenarios.
- Comparison of performance results with non-MEC end-server MCPTT deployment and MEC-based MCPTT deployment.

CHALLENGES

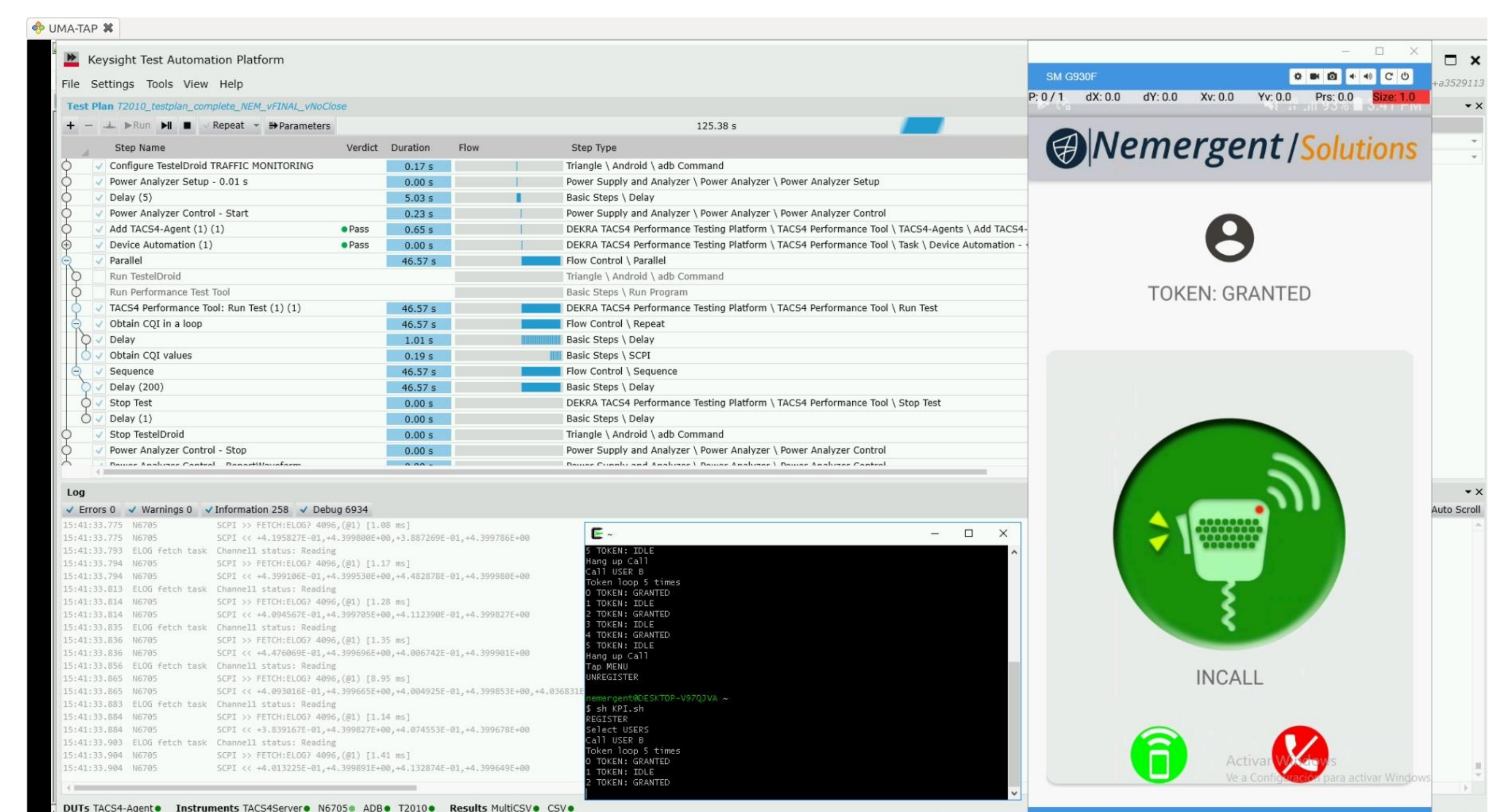
- High integration effort is required.
- Comparable samples are difficult to obtain.
- Automation of experiments at any level:
 - LTE-related.
 - Parallelization of processes.
 - App clicking.
- Results extraction based on output documents format.

DEMO SETUP

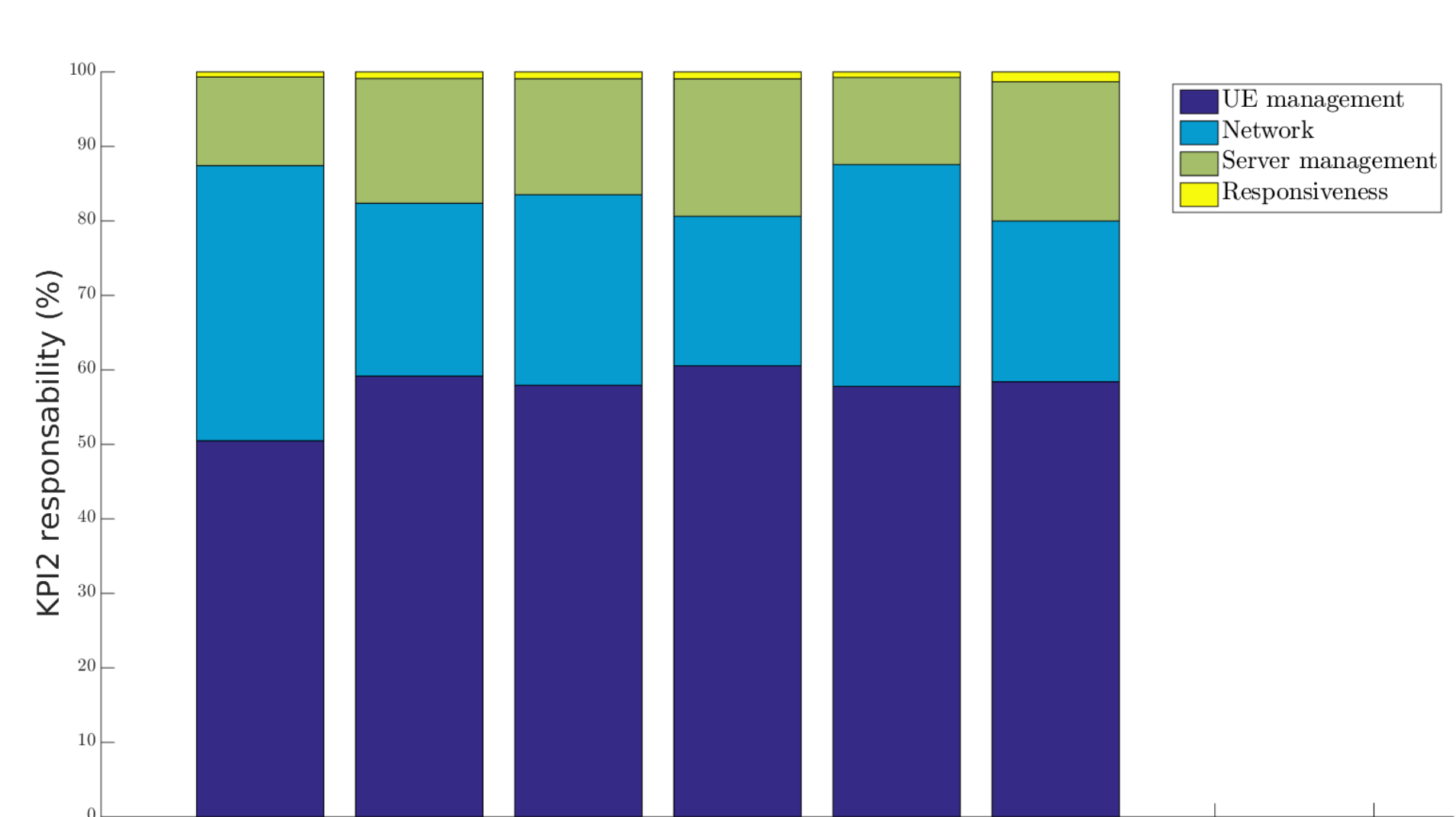
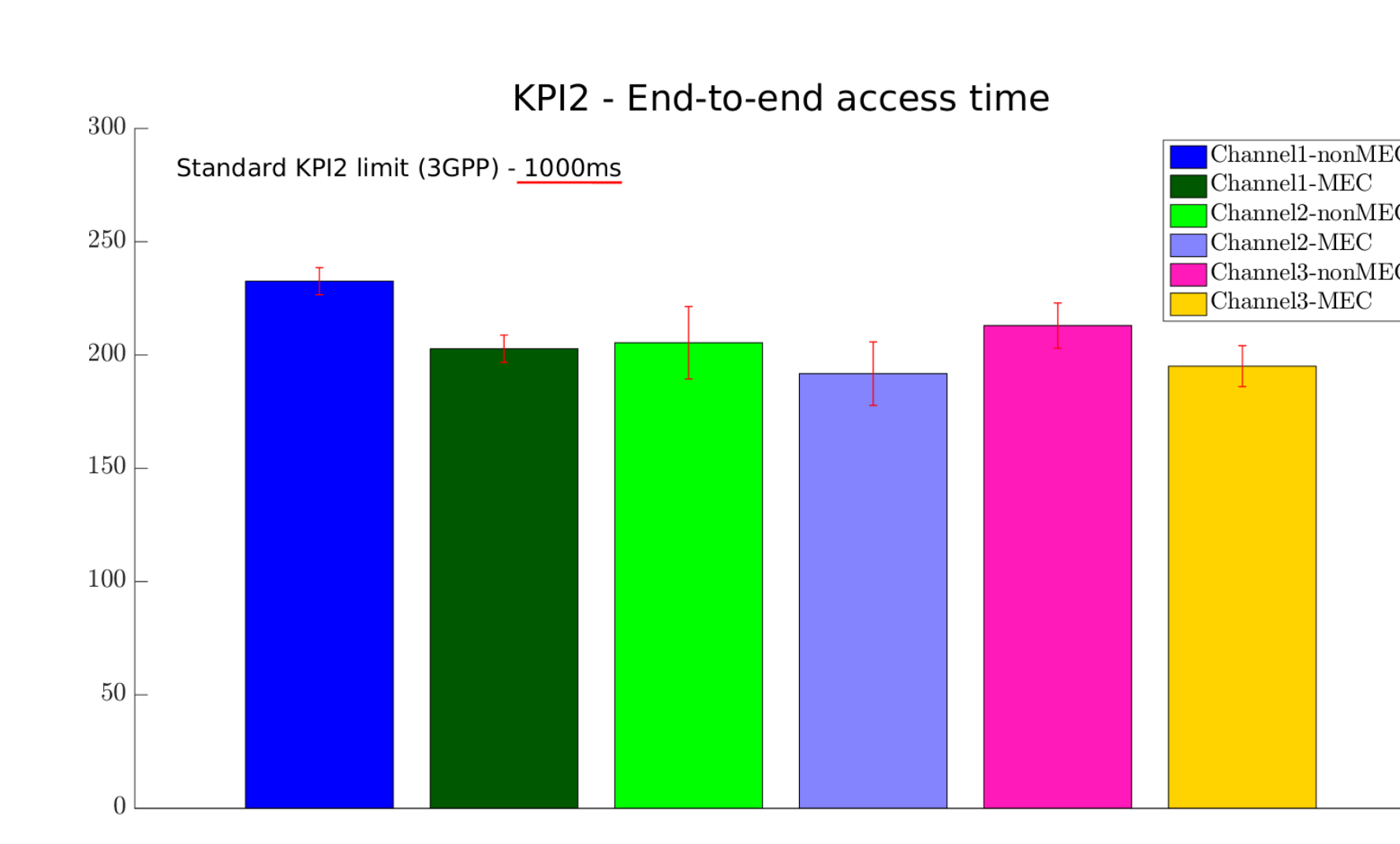
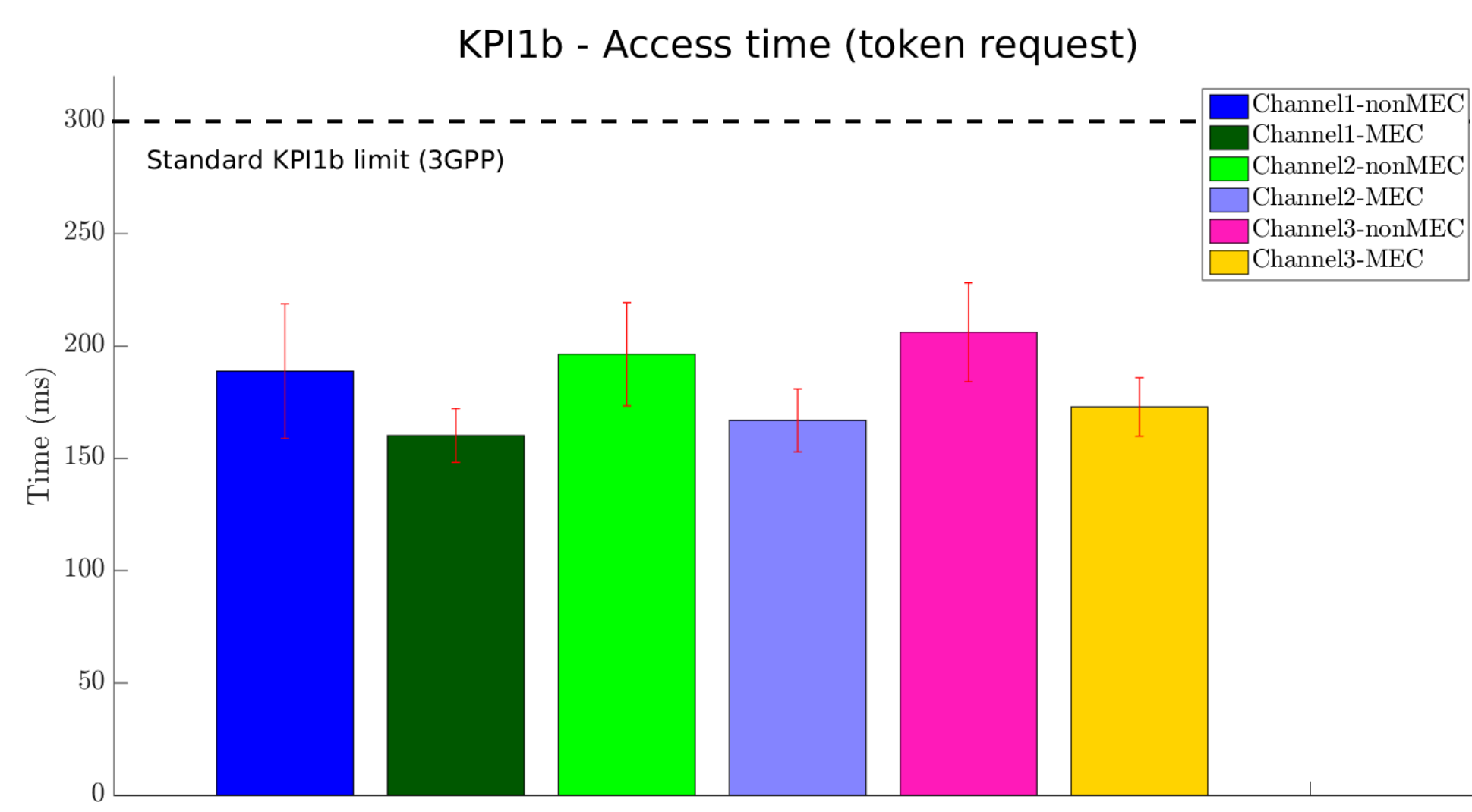
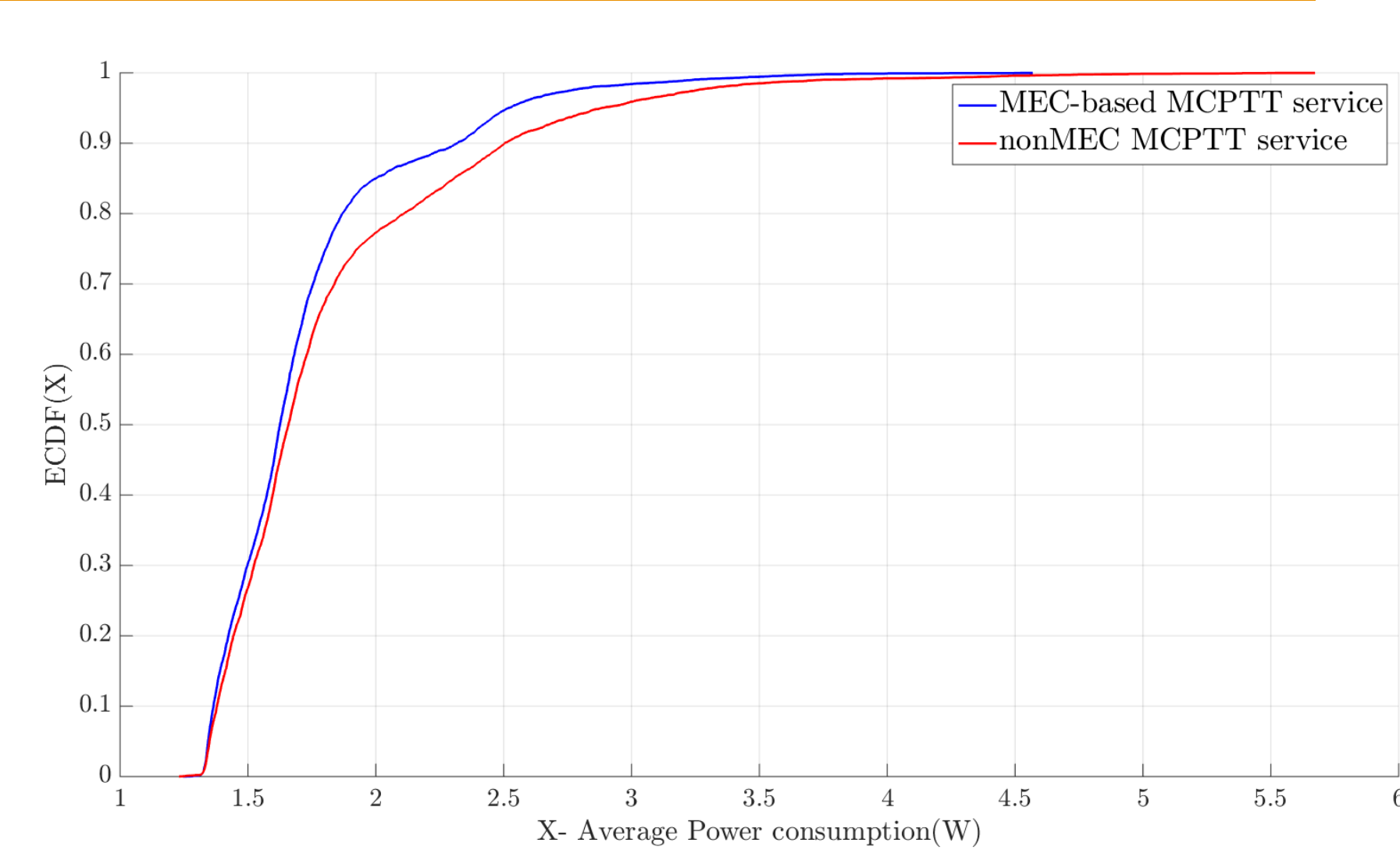
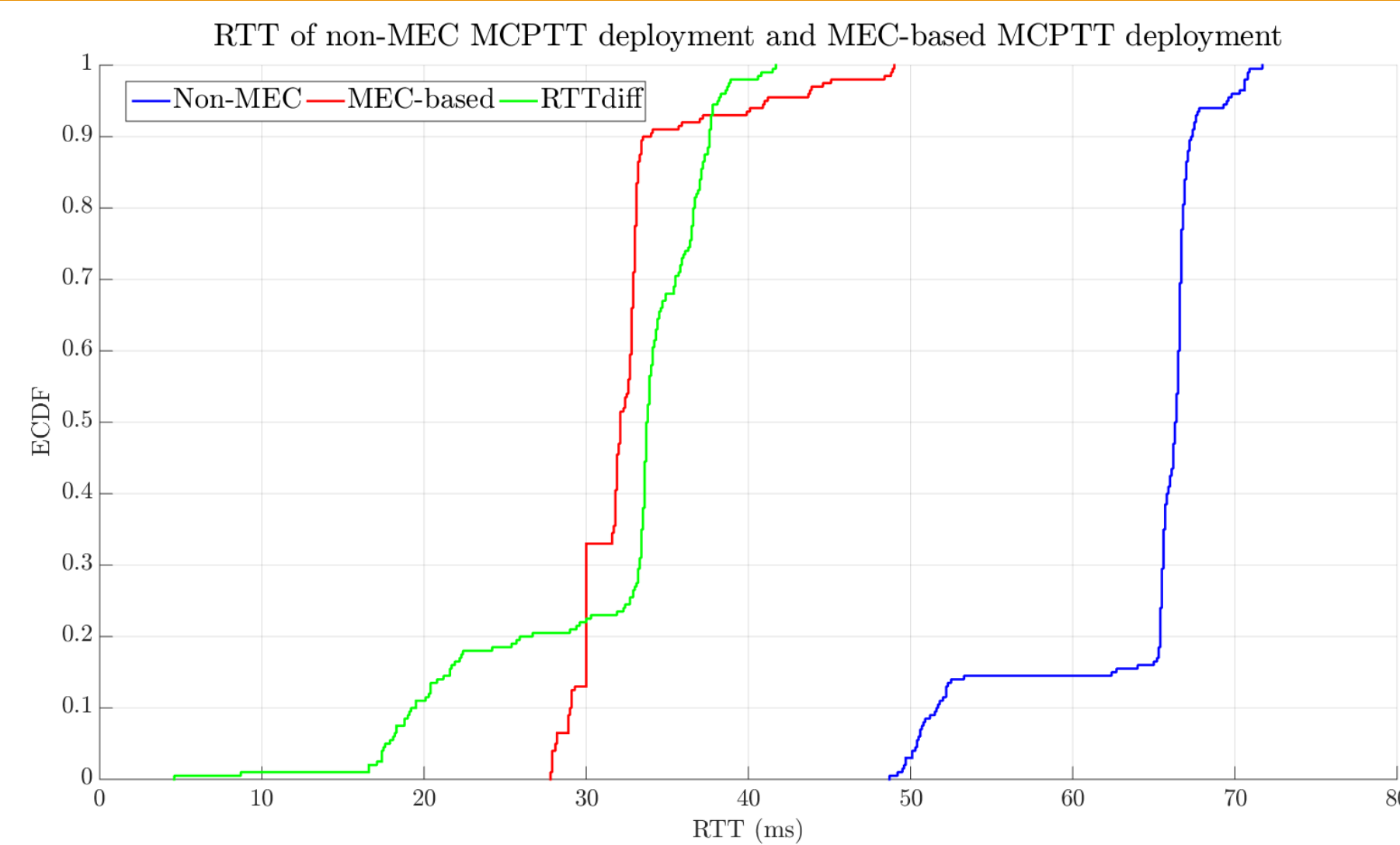
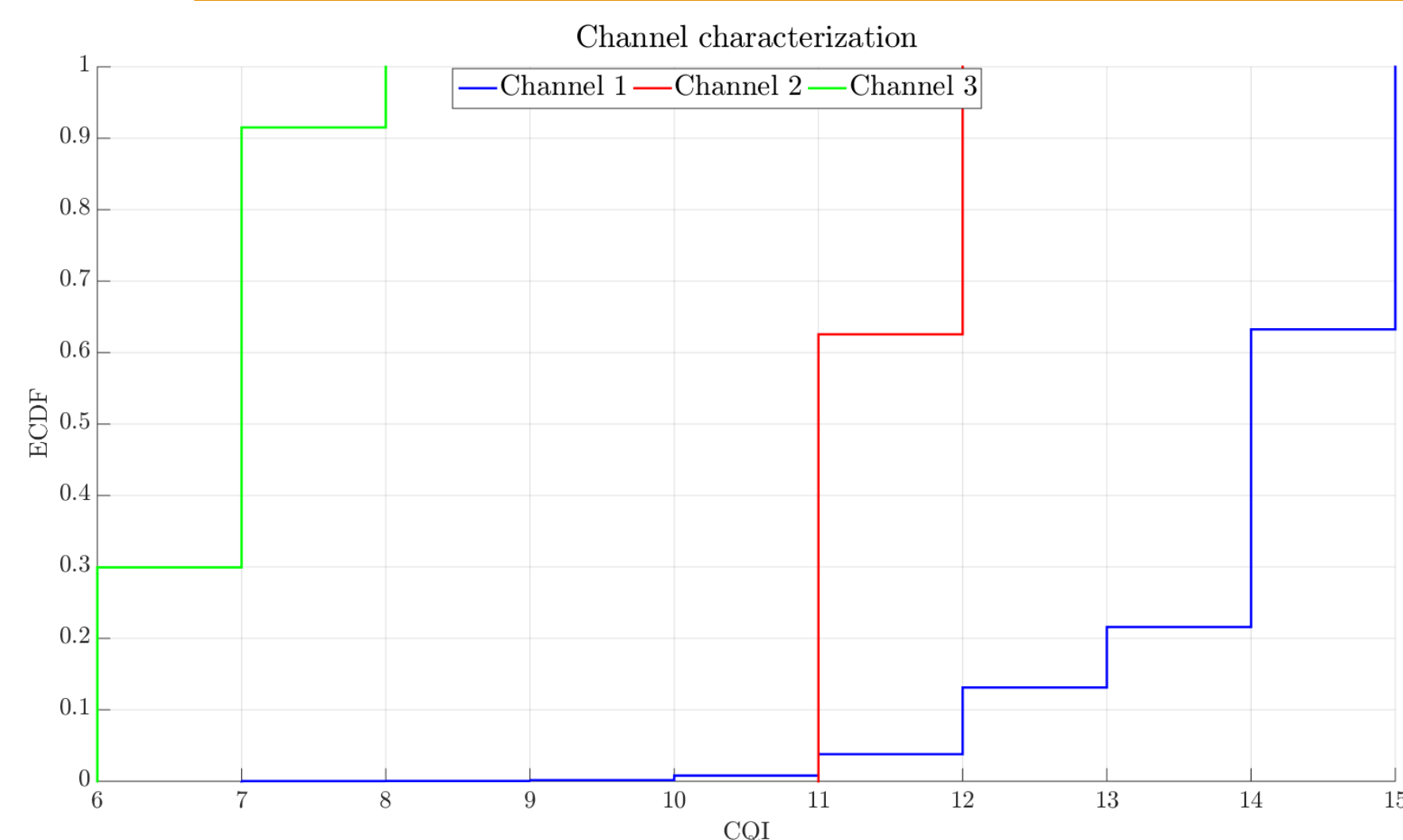


RESULTS

Automated testing of MEC-based vs non-MEC MCPTT deployment with configuration of LTE, attach of UE, configuration and start of results gathering programs, task parallelization, clicking through adb, data retrieval and postprocessing.



MORE RESULTS



CONCLUSIONS

- 3GPP KPI limits are fulfilled.
- Different channel conditions slightly impact on KPIs.
- MEC-based improvements:
 - Average power consumption – 6%.
 - KPI1b – Access time (token request).
 - KPI2 – End-to-end access time.
- UE+App impact on critical communication e2e delay.

POST MORTEM

- Delay analysis:
 - 5G-like MEC-based MCPTT service.
 - Evolution of UE+App-side to reduce e2e delay.
- Concepts to reality – 5GENESIS – Málaga platform - UMA
 - MCPTT to MCS – Nemergent and Airbus.
 - MEC by telefónica, Orchestration by Atos, 5G-ready network by Athonet and RunEL, 5G-UE by Eurecom.
 - Málaga police – end-user, first-responders.