Linux Kernel Functional Testing (LKFT)

Functional Testing of Mainline, LTS and Android Common Kernels
Linux Kernel Functional Test (LKFT) Components

The LKFT framework is a collection of software tools and hardware devices. LKFT is composed of:

- **Lab** - test targets
  - You can host your own remote lab
- **Jenkins** - Builds -> on demand builders
- **Linaro Automated Validation Architecture (LAVA)** - Manage the DUTs
- **SQUAD** - Scheduling, data analysis and reporting framework
- **Test definitions**

Backed by Linaro’s Kernel Validation team to maintain, triage results, and escalate
To the right is a Poco F1, booting Android with a mainline linux kernel (and a couple of patches but not many!) Pixel 3 boots mainline too! (with patches)

Being able to boot/run Android on mainline means we can test mainline, future stable and future LTS kernels at RC.
Boot testing is tired, Functional testing is wired

- CTS / VTS (kselftest, LTP)
  - Remember exercising the kernel is what we want
  - CTS pushes on Camera, BT, Networking
- Add energy probes, run benchmarks, workloads and look for kernel regressions in EAS
- Add a [Chamelium](#) board to capture video / sound
  - IGT
  - Synthmark
  - V4L2
  - libcamera
- Regressions get to be more than pass/fail, EAS regression uses statistical tests that spot anomalies