Purpose

Connect STM32 + prepare mic and find the crack on TV display

Elements

- **Connect stm32 by wire**
- Mic status indicator
- Battery / power status
- Big button
- Hall sensor for connection starting indicator
- Measure Noise
- Data and Collection

Main Function

Start → Solenoid fires → Mic records

Pre-processing

- Use DSP filter for extracted the signal
- Do Live FFT and Power spectral Analysis

Classifier

- Integrate the ML/ AI or model for find the crack

DSP Happens in Background

User never sees:

- Filters
- FFT
- Feature vectors
- ML

  Pipeline:
- Tap
- → Record 10s WAV by controlling tapper Driver
- → Band pass 1–6kHz
- → FFT
- → Feature extraction
- → Classifier
- → Result

Phone Layout