#### **Meshtastic-SDR**

#### An SDR approach for a full Meshtastic transceiver

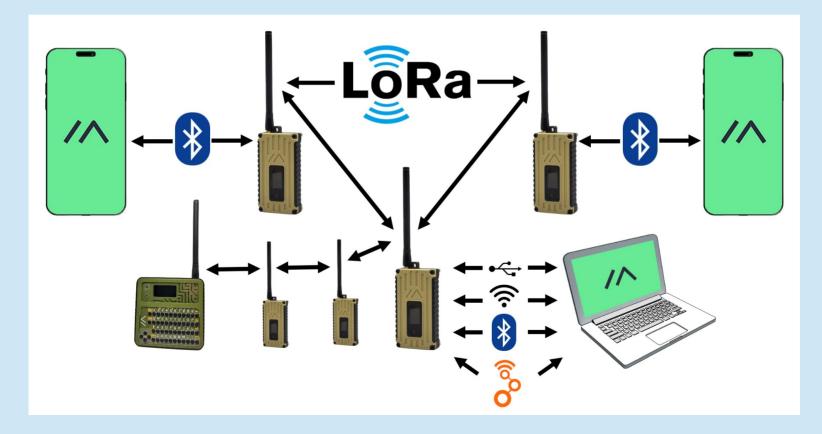
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# What is // ESHT // ST/C ?

- An open-source, off-grid, decentralized, mesh network built to run on affordable, low-power devices
- Devices use Semtech's LoRa hardware to obtain resilient communications in RF adverse environments
- LoRa was proprietary, until now

https://meshtastic.org/

## What is // ESHT/ST/C ?



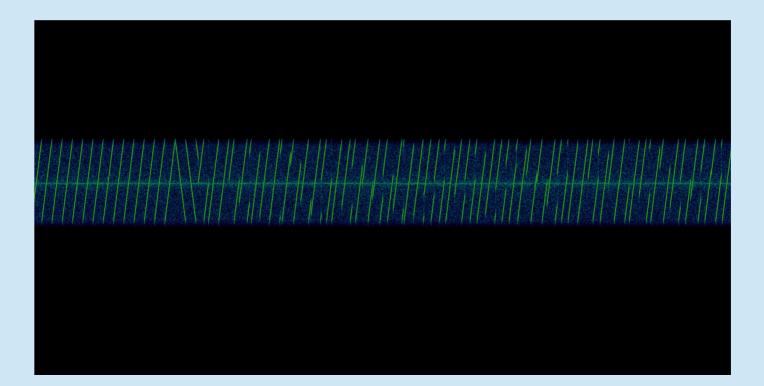
Images shamelessly taken from https://meshtastic.org/docs/introduction/ and https://github.com/gnuradio/gr-logo/blob/master/gnuradio\_logo\_icon.svg

### Why an SDR solution?

- An RTL-SDR can decode most Meshtastic presets at the same time
- Potentially enables a LoRa-geometry shifting repeater
- Can bring Meshtastic and LoRa modulation to other frequencies!
- Testing Meshtastic devices OTA for bugs

#### **DEMO TIME**

https://www.youtube.com/watch?v=Qt1xI-m1aBY





- This project would not have been possible without the creation of GR-LoRa\_SDR
- https://github.com/tapparelj/gr-lora\_sdr

• J. Tapparel, O. Afisiadis, P. Mayoraz, A. Balatsoukas-Stimming and A. Burg, "An Open-Source LoRa Physical Layer Prototype on GNU Radio," 2020 IEEE 21st International Workshop on Signal Processing Advances in Wireless Communications (SPAWC), Atlanta, GA, USA, 2020, pp. 1-5.

- Name: Josh Conway
- Code Credit: discord user:winter\_soldier#1984 and AT
- Email: jwconway@protonmail.com
- Project: https://gitlab.com/crankylinuxuser/meshtastic\_sdr

