

Meshtastic Workshop



Meshtastic is an alternative **communication network** providing resilient **mesh relay** routing, **low power** consumption, and **long-range** capability



What We're Going to Cover

| **What is Meshtastic and LoRa?**

| **How to Install Device Firmware**

| **Setting Up and Connecting the App**

| **Meshtastic and Encryption**

| **Optimizing the Network**

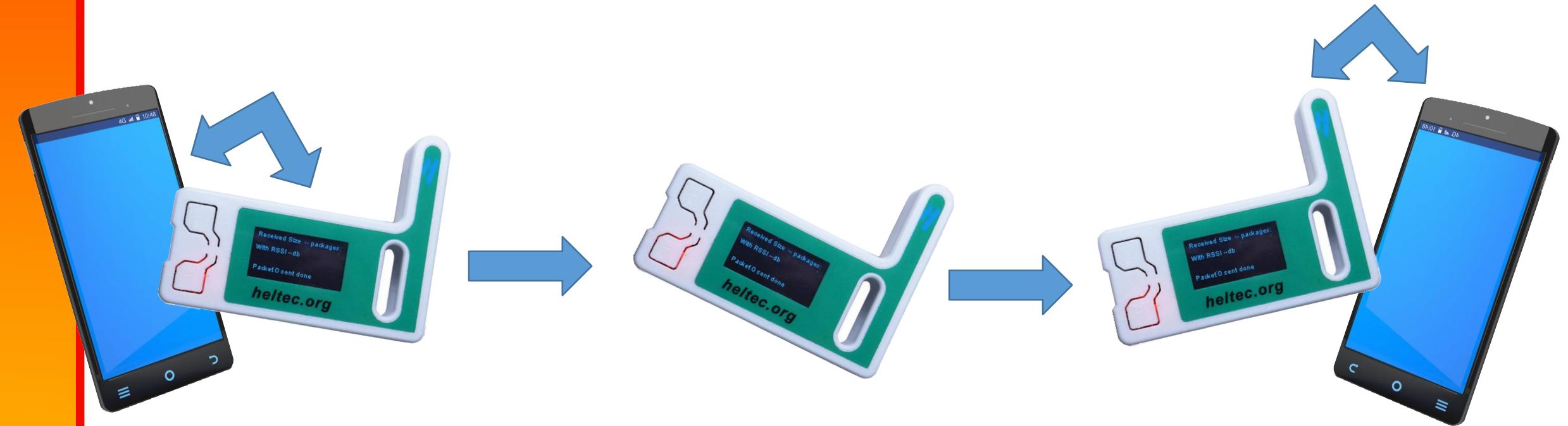
| **Practical Uses**



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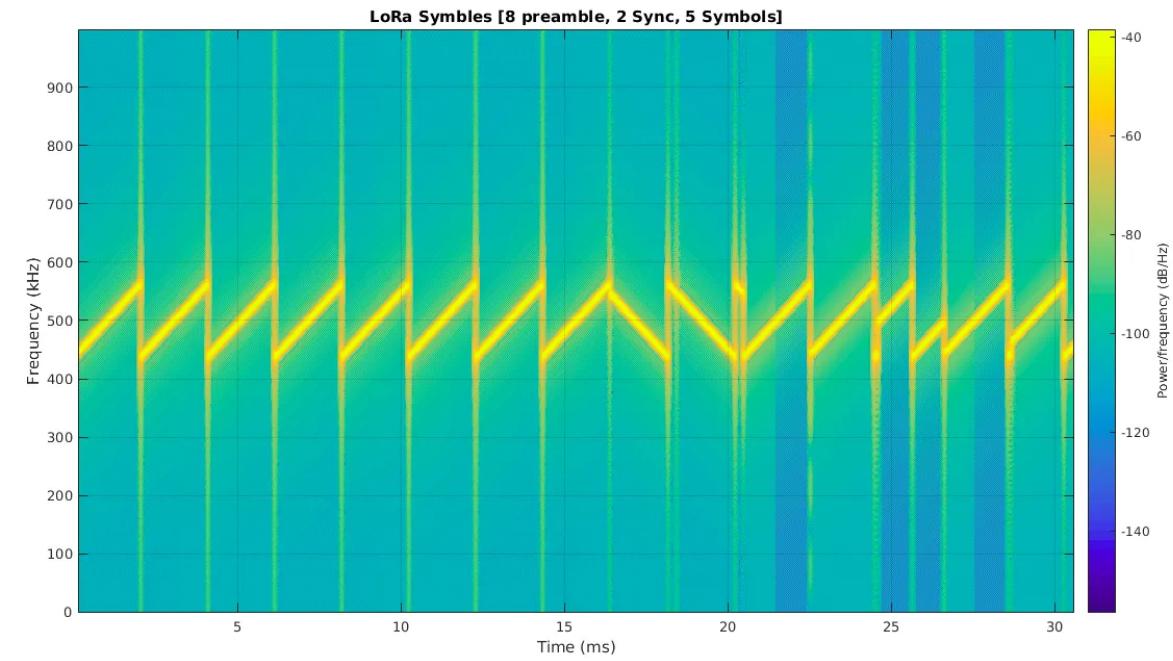
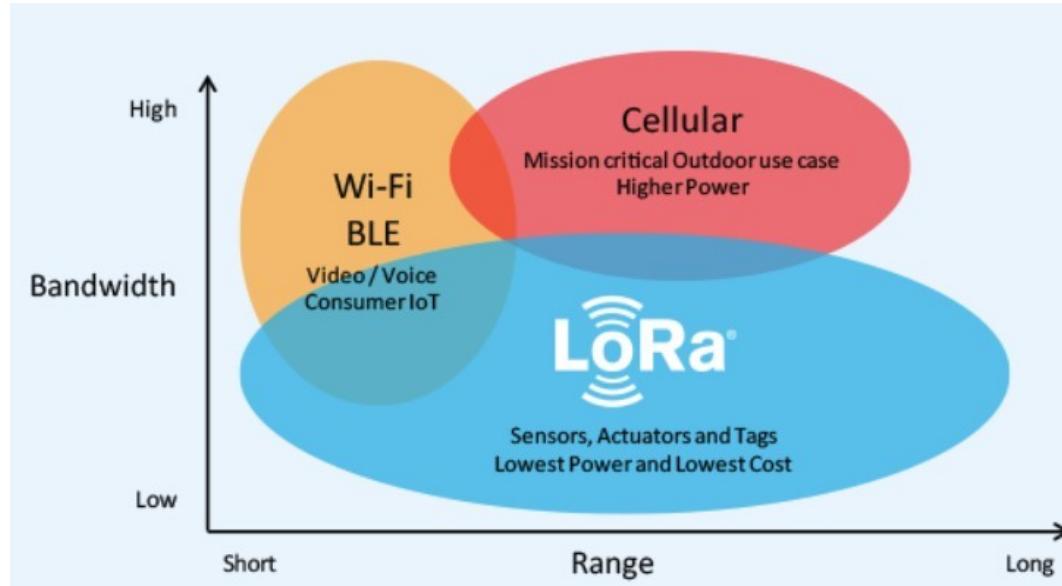
The **Importance** of **LoRa** and **Meshtastic** for Alternative Communication



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Understanding LoRa: Long Range, Low Power, Encrypted Communication for IoT and Beyond



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LoRa: A Key Technology for IoT and Secure Communication





Why Choose **LoRa** Over **Ham Radio's APRS** for Secure Communication?



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Introducing Meshtastic: The Open-Source Solution
for Decentralized Communication



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Choosing the **Right** LoRa/Meshtastic Device

Custom Solar Setup



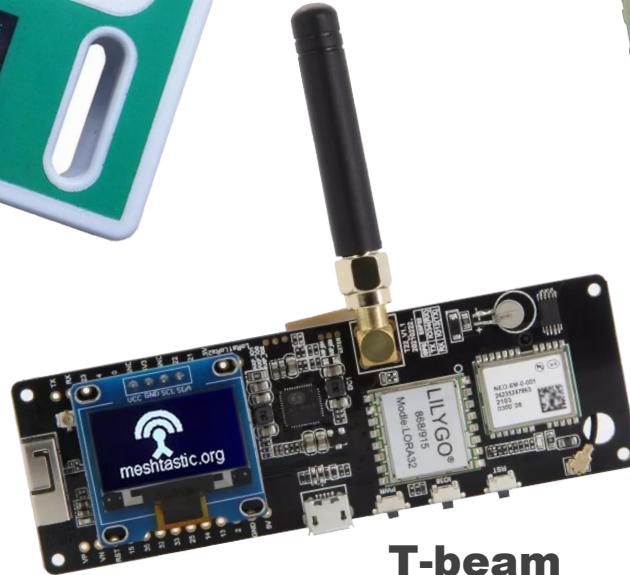
HeTec V3



T-deck



T-beam



Custom T-beam



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Setting Up Your Meshtastic Device: Power



**LiPo
Battery**



**Small Solar
Panel**



**Coinkite
ColdPower**

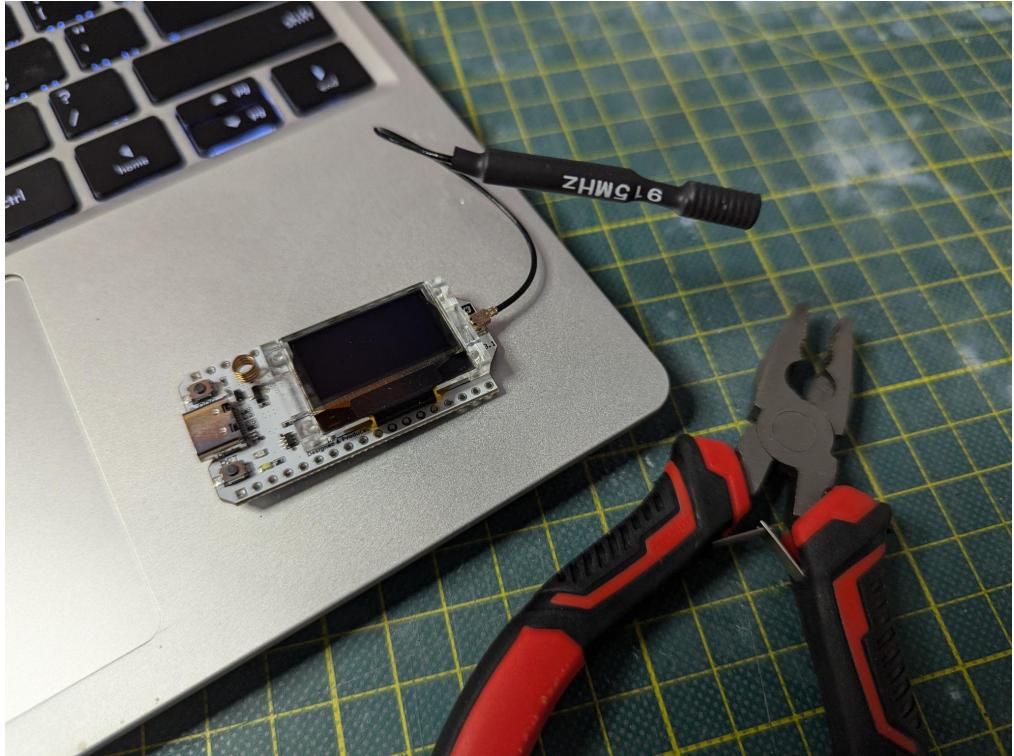


**USB battery
bank**

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Setting Up Your Meshtastic Device: Firmware Install

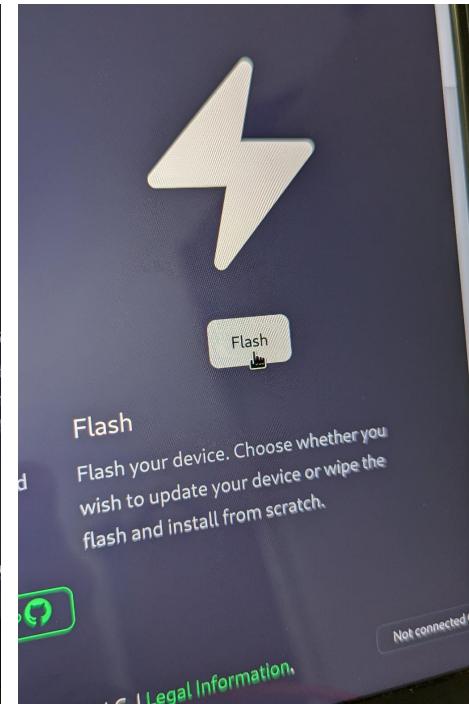
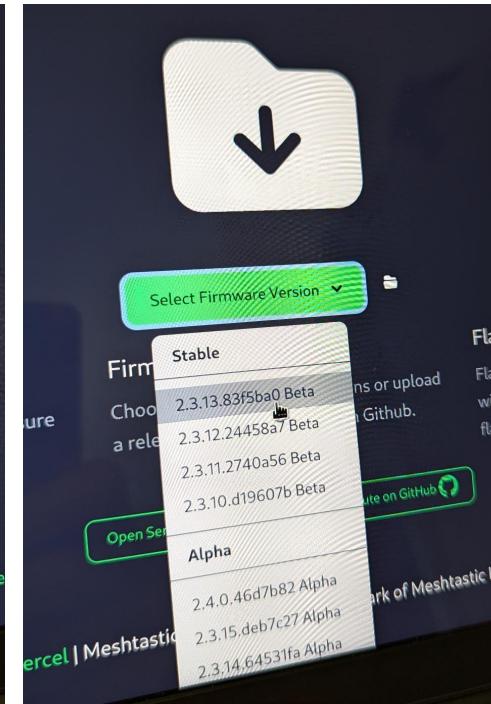
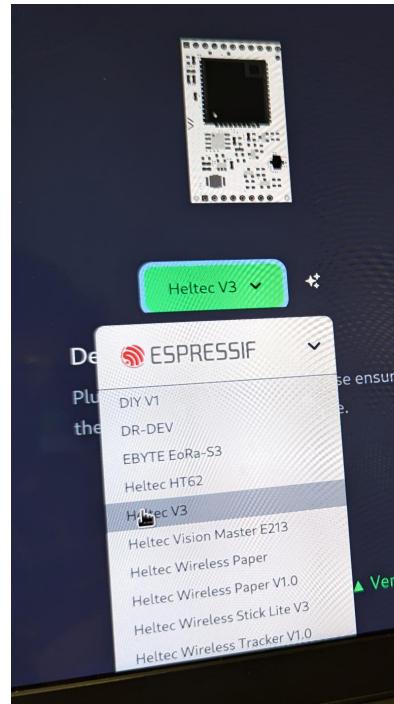


Connect to your computer via USB

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Setting Up Your Meshtastic Device: Firmware Install

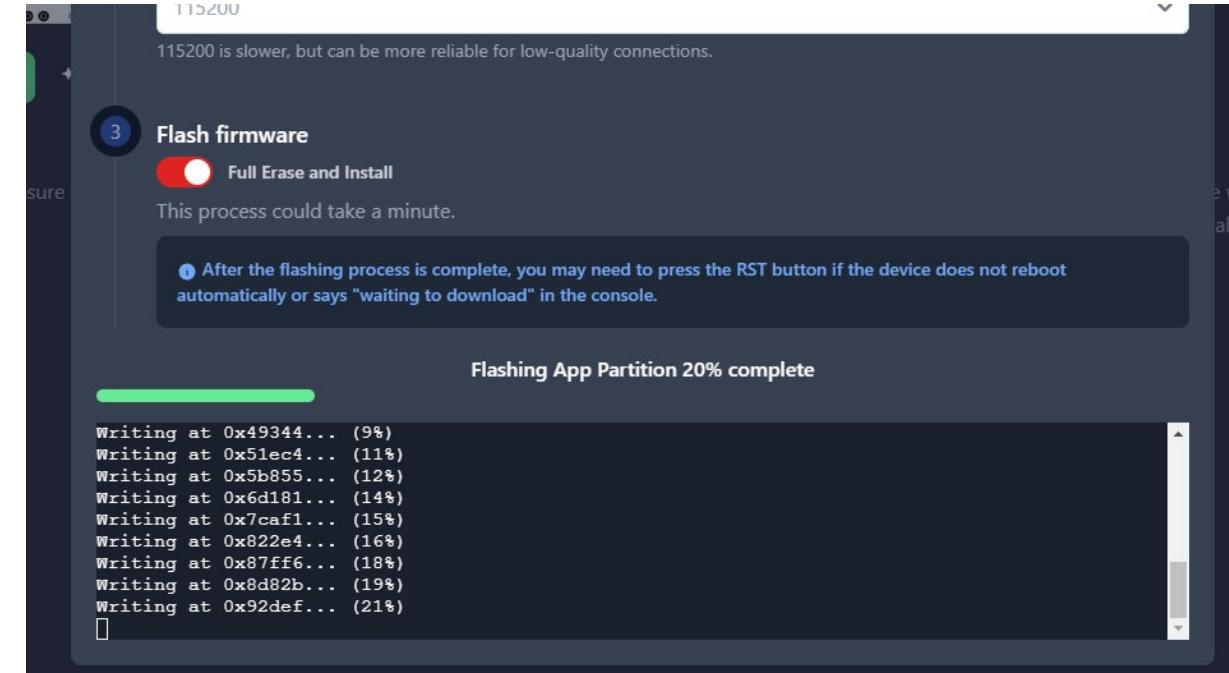
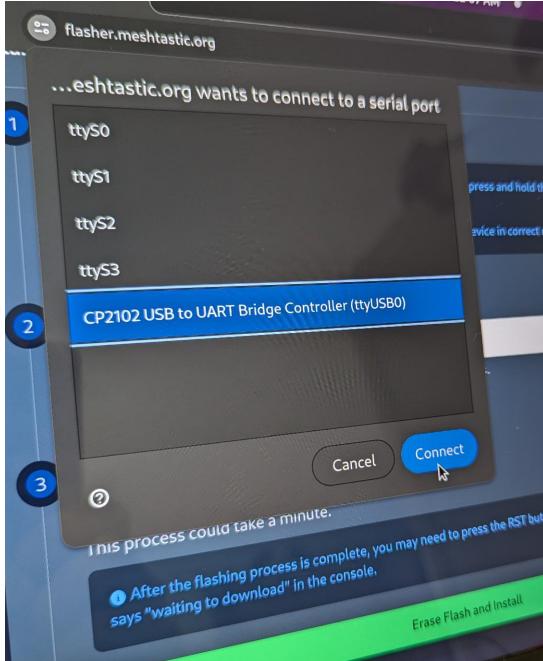
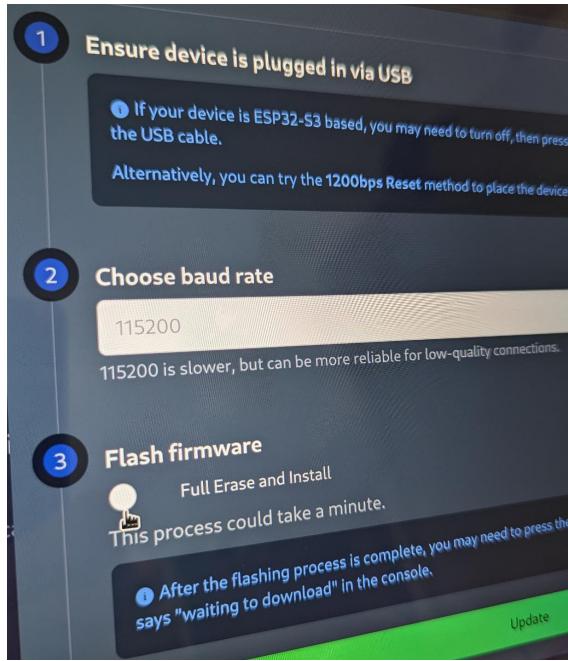


<https://flasher.meshtastic.org/>

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Setting Up Your Meshtastic Device: Firmware Install



<https://flasher.meshtastic.org/>

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Setting Up Your Meshtastic Device: Firmware Install

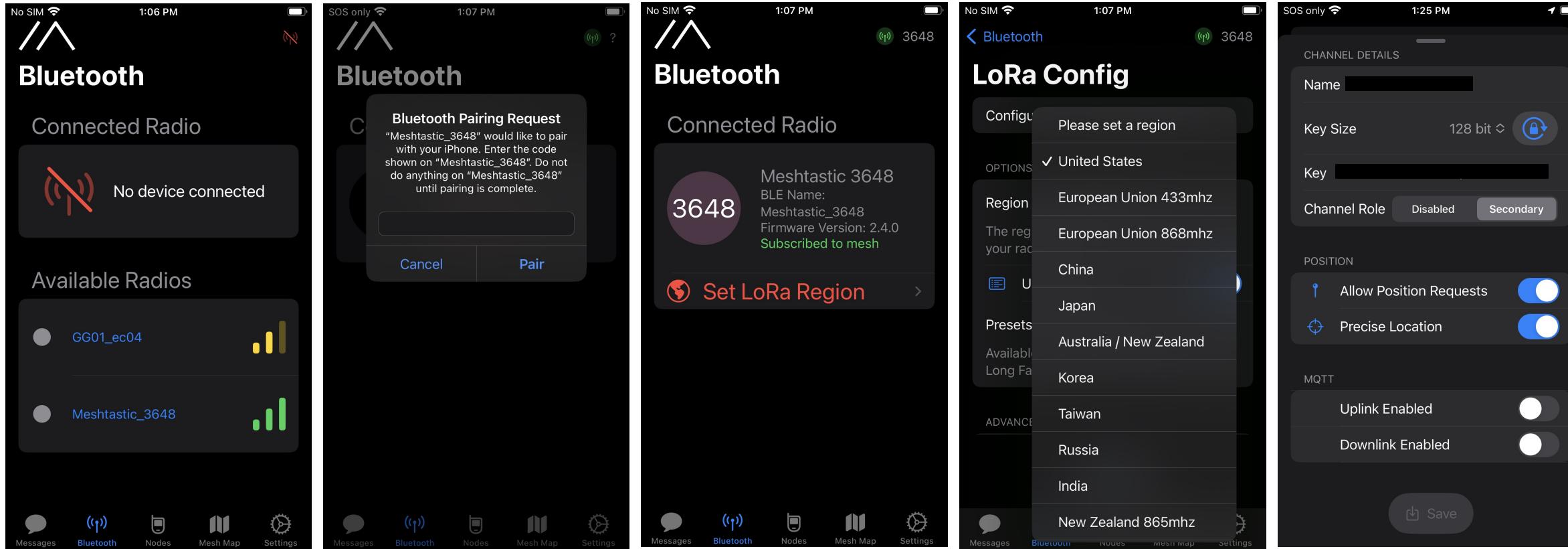


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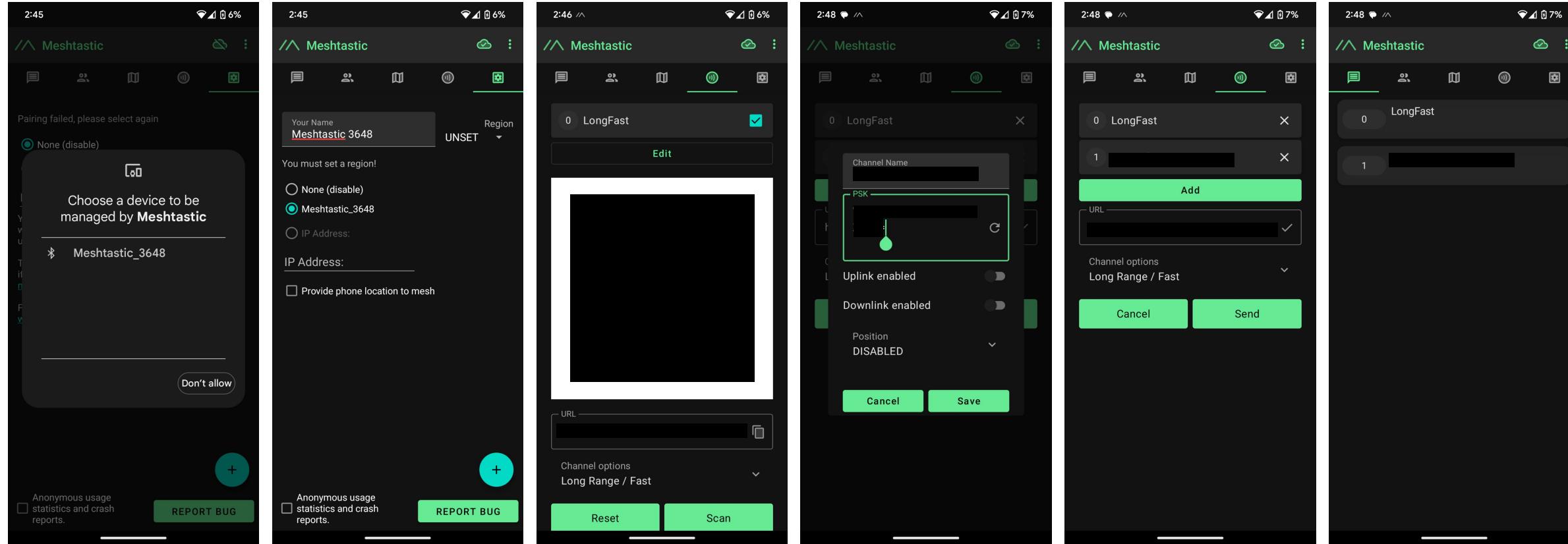
Setting Up Your Meshtastic Device: iPhone Software



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Setting Up Your Meshtastic Device: Android Software



Join Us On The Mesh!

BTC Conference Meshtastic Channels

- 0 Primary Channel
- 1 B V Citadel
- 2 btc.chat
- 3 ecash.chat
- 4 p2p.market
- 5 /politics
- 6 events.news
- 7 nostr&npubs



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Understanding Meshtastic Concepts: A Multi-Layer Approach

Naive Flooding for Multi-Hop Messaging

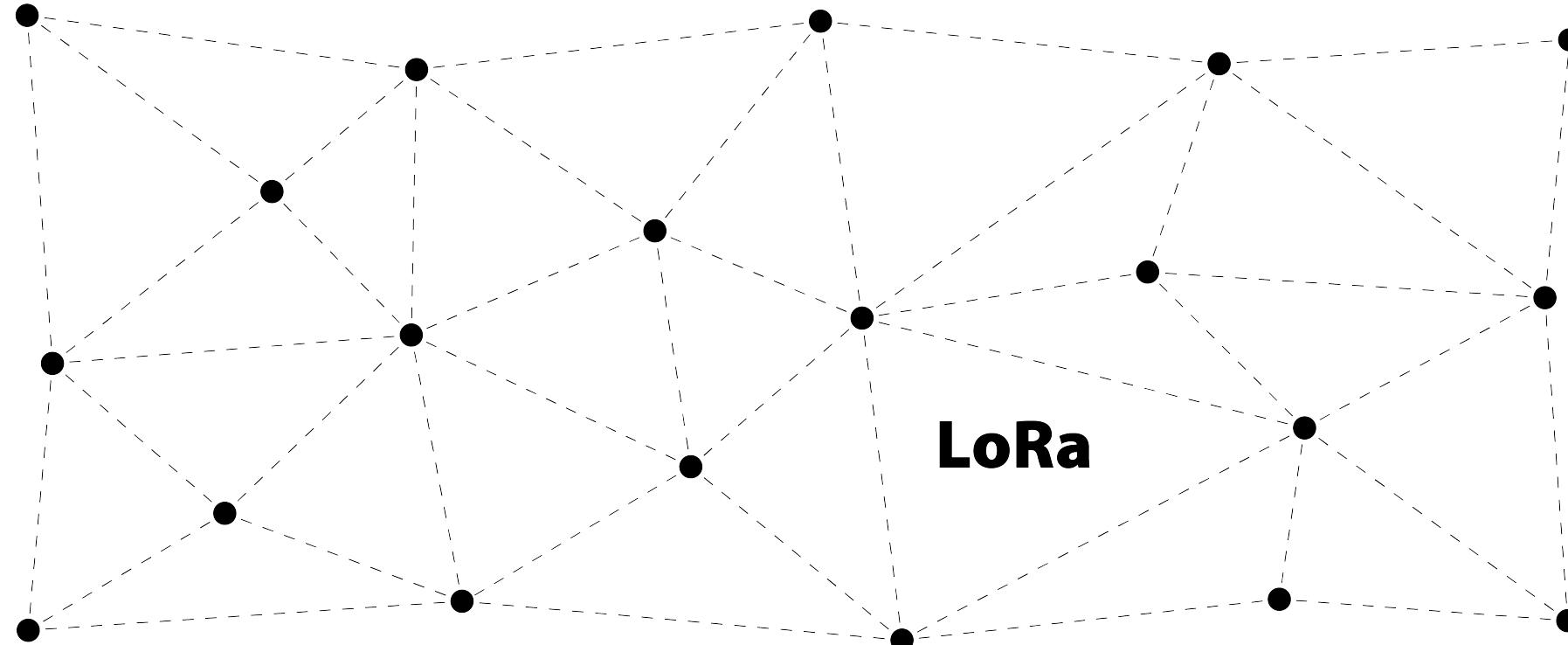
Reliable Zero Hop Messaging

Unreliable Zero Hop Messaging

LoRa Radio

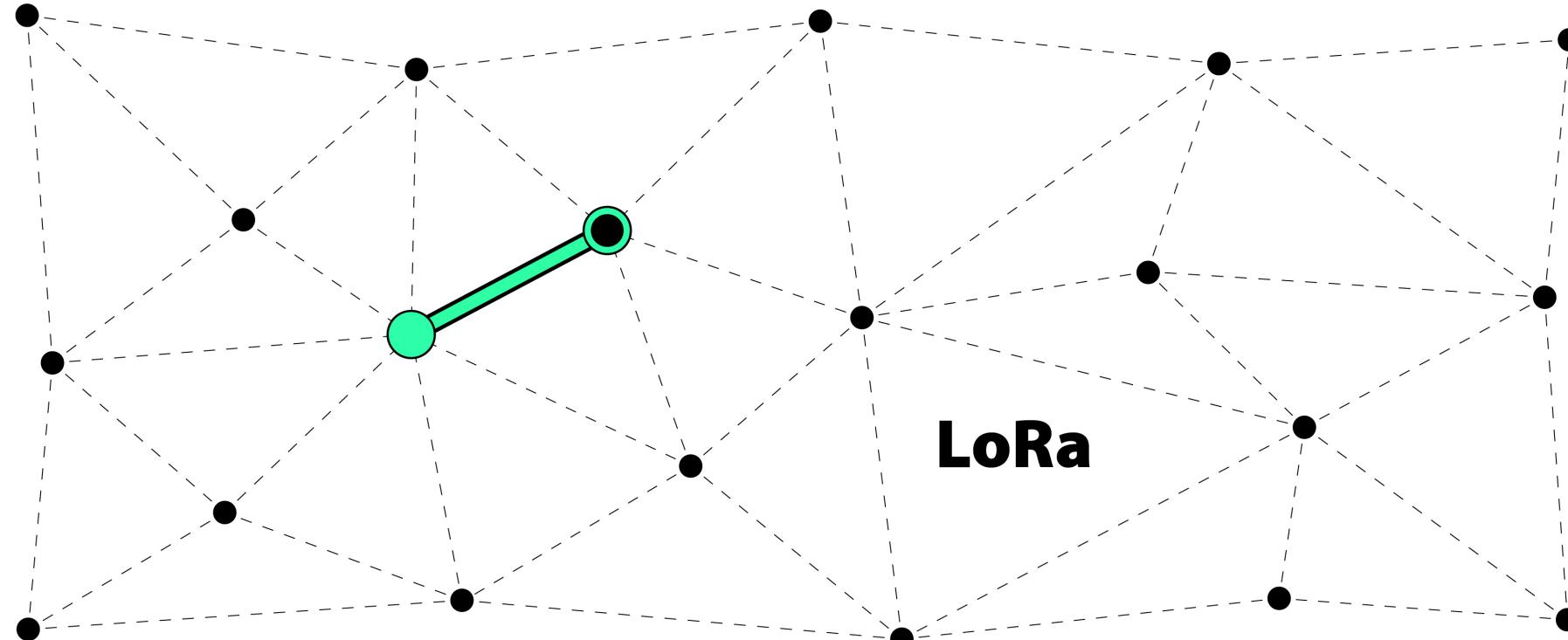


Layer 0: LoRa Radio - The Foundation of Meshtastic Communication



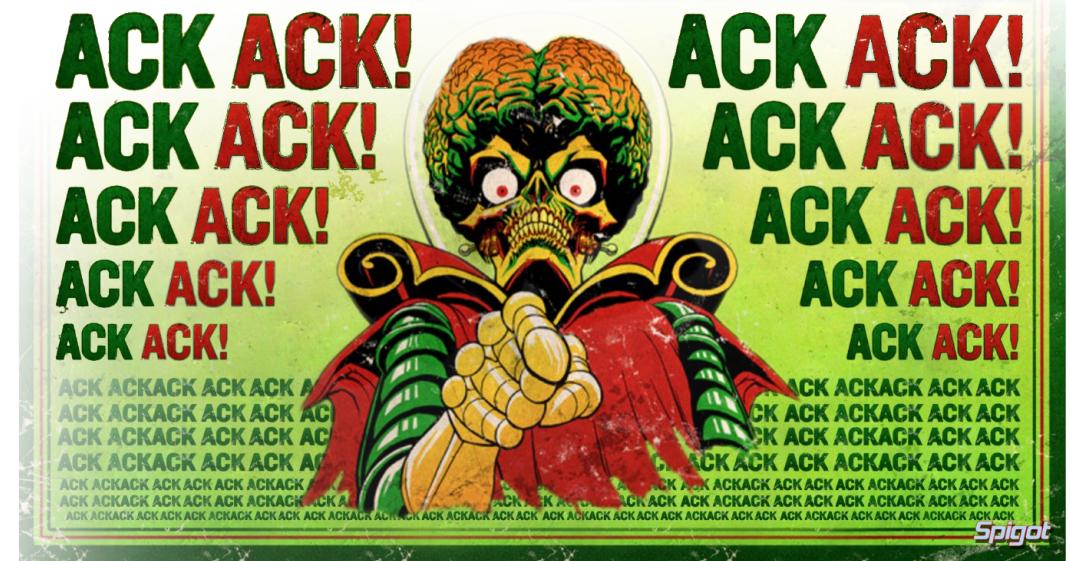
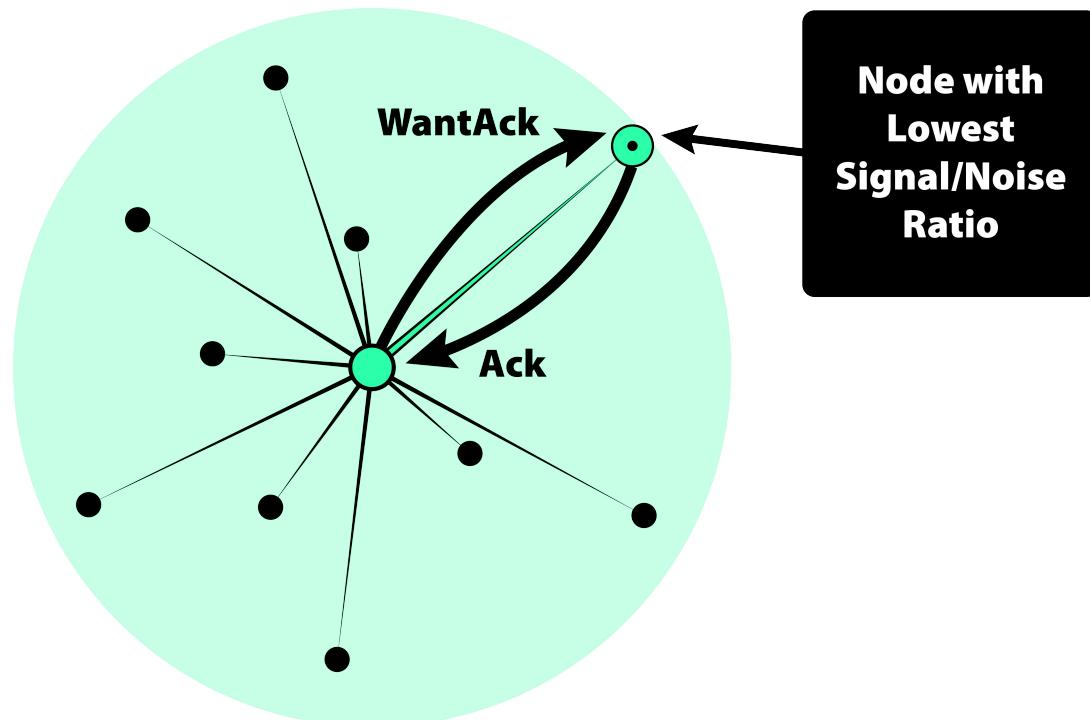


Layer 1: Unreliable Zero Hop Messaging - Conventional Packet Transmission



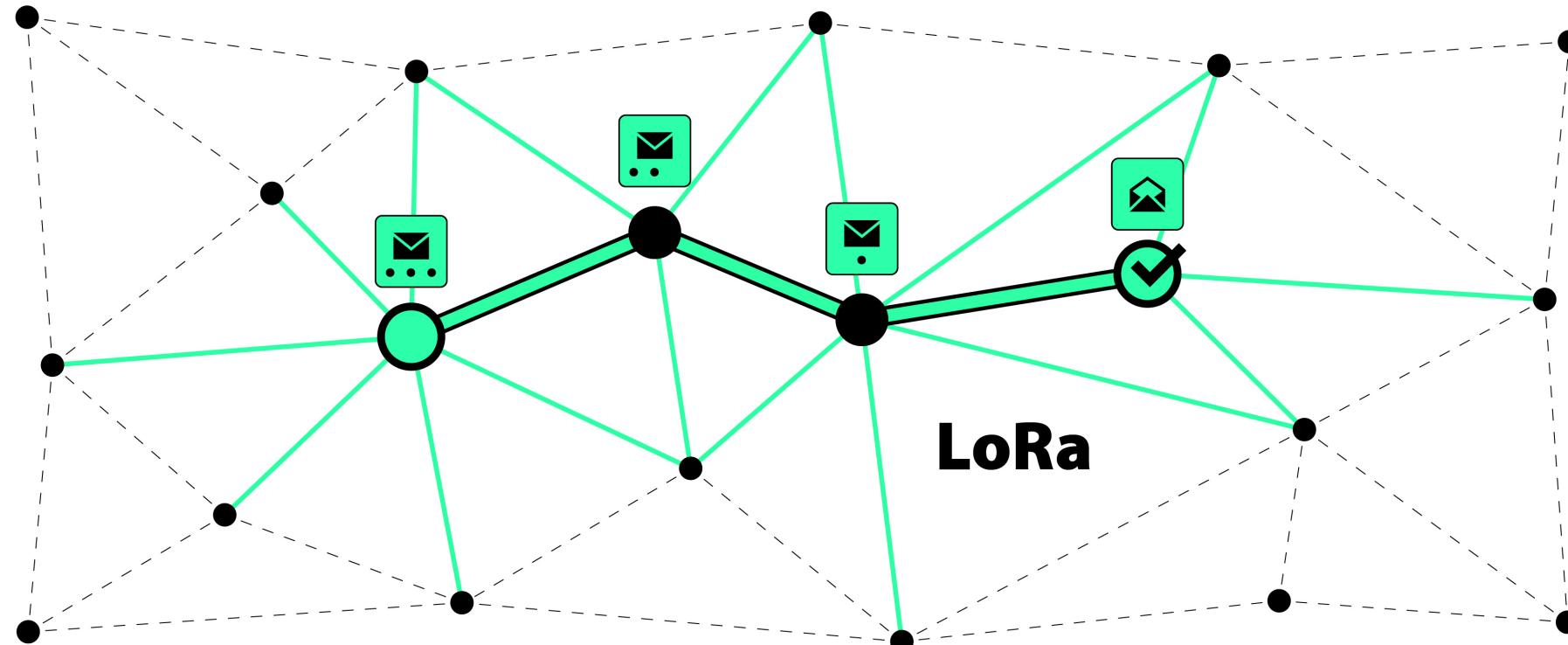


Layer 2: Reliable Zero Hop Messaging - Ensuring Message Delivery



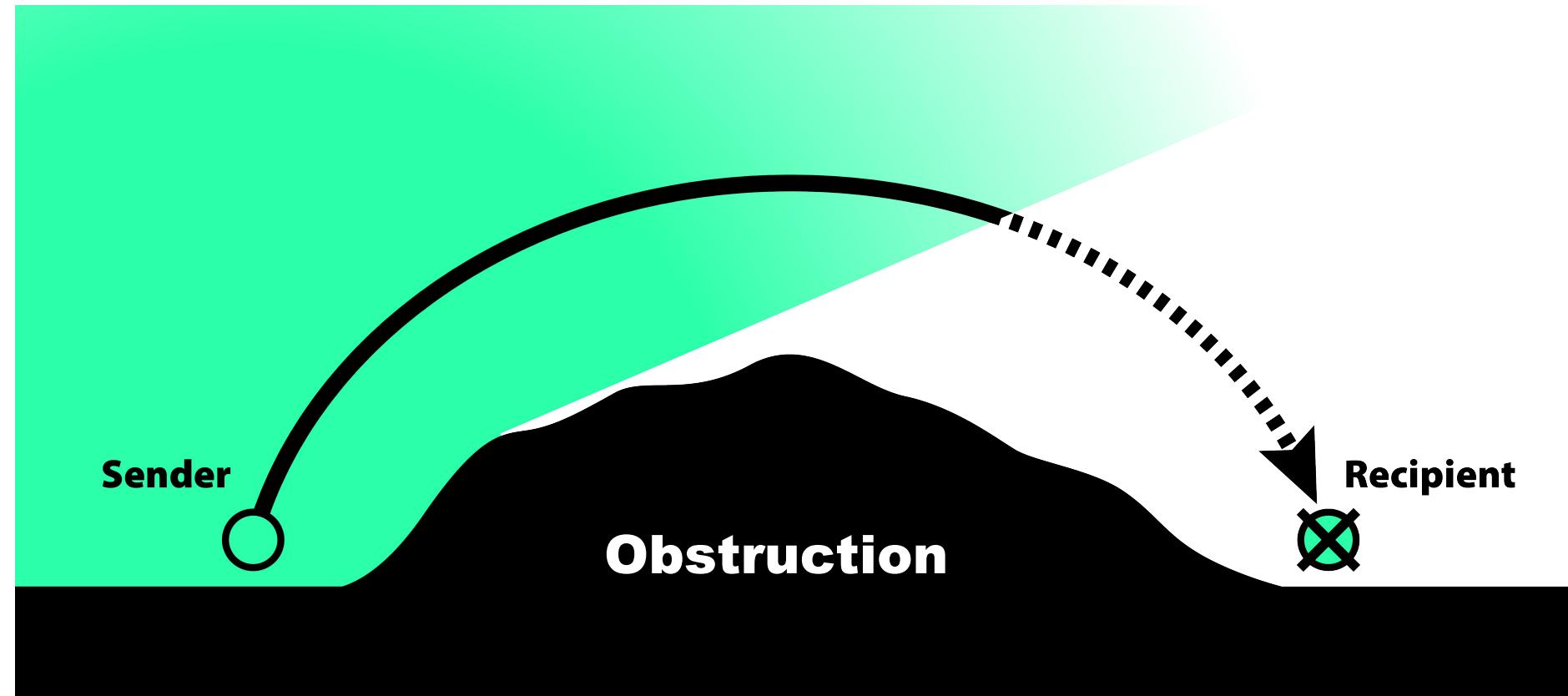


Layer 3: (Naive) Flooding for Multi-Hop Messaging - Extending Message Range



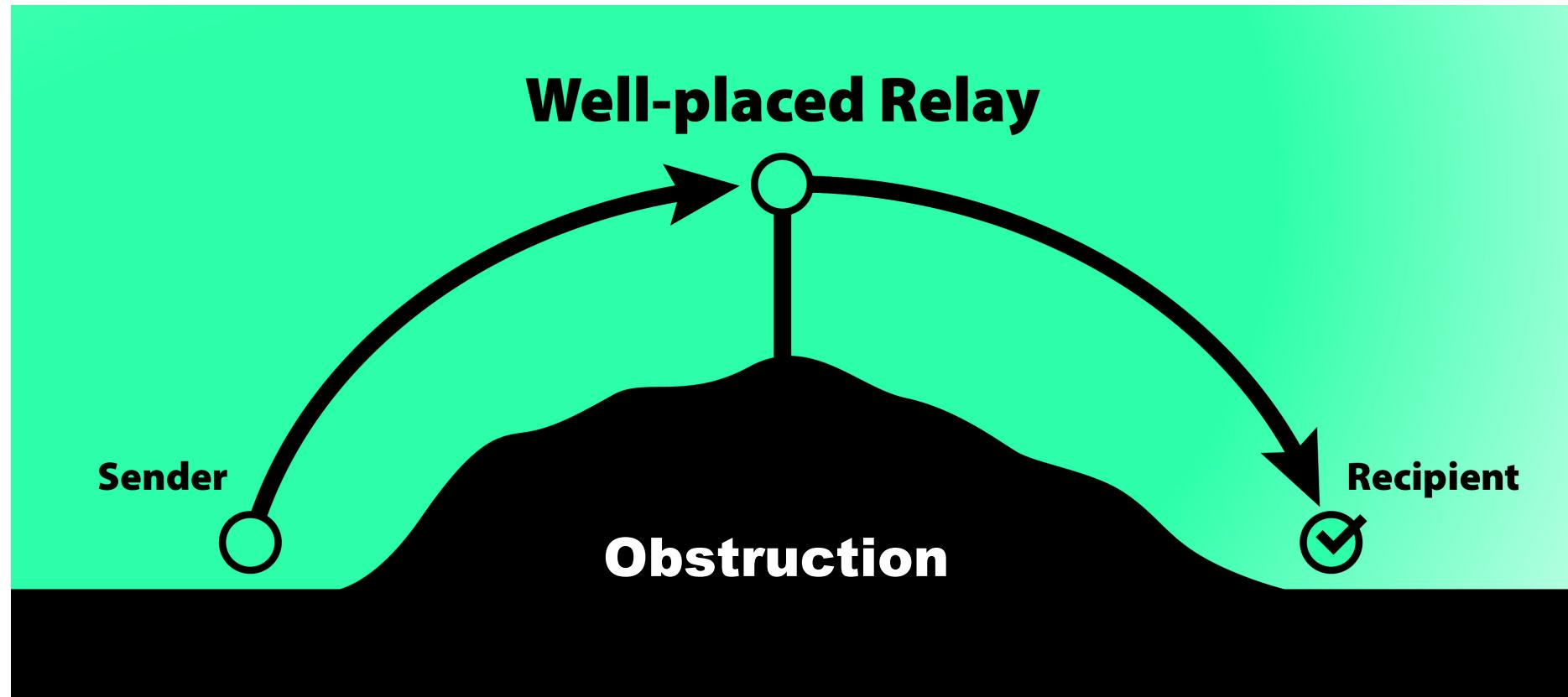


Optimizing Network and Landscape Topology for Reliable Coverage





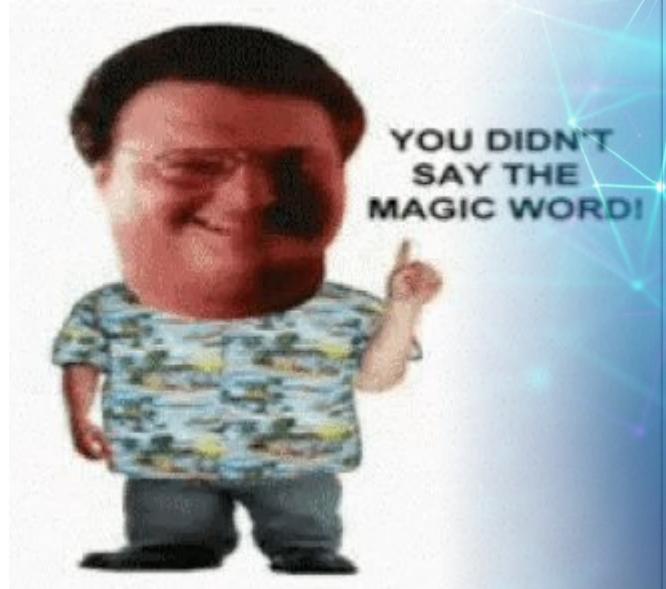
Optimizing Network and Landscape Topology for Reliable Coverage





Security Considerations for Meshtastic Users

AQ==?



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Practical Use Cases for Meshtastic and LoRa



**Rural Area
Connectivity**



**Outdoor
Adventures**



**Disaster
Response**



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**Shout out to
The Comms Channel**

https://www.youtube.com/@The_Comms_Channel



#artist #designer



Hi! I'm
Adam Malin



thePR0M3TH3AN

[npub15jnttpymeytm80hatjqcvhhqhzrx6gxp8pq0wn93rhnu8s9h9dsha32lx](https://nft BTC.nft/thePR0M3TH3AN)

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Key Takeaways

- | **Meshtastic and LoRa:** Decentralized, off-grid chat app with phone and LoRa radio.
- | **Encryption:** Uses encryption for secure messaging. Channel keys ensure privacy.
- | **Network Topology:** Clear lines of sight and strategic placement of nodes enhance reliability.
- | **Practical Use Cases:** Ideal for emergency communication, and community or mobile networks in remote areas.



/MESHTASTIC

Thank You!

**BTC
Conference
Meshtastic
Channels**

- 0 Primary Channel
- 1 B V Citadel
- 2 btc.chat
- 3 ecash.chat
- 4 p2p.market
- 5 /politics
- 6 events.news
- 7 nostr&npubs



**Open Source
Presentation**



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