



Mesh Node, Companion III (Meshtastic)



The **Mesh Node Companion III** is a rugged personal node transceiver for mesh network connectivity, housing Ebyte's **EoRa PI** with a **E22-400MM22S** (Semtech® **SX1268**) LoRa® module, Xtensa® **ESP32-S3** MCU, plus the Beitian **BE-220** GNSS (**UBX-M10050-KB**). Interact via smartphone or Win/Mac/Linux PC using WiFi, Bluetooth, or USB (*USB-A/C cable included*). The **internal 1100 mAh LiPo** cell may be charged from external 5V sources including phones or power banks (*not included*).

✓ Features

- **Ebyte EoRa PI.** Xtensa ESP32-S3 MCU with Ebyte E22-400MM22S (Semtech LoRa SX1268) radio module; Meshtastic firmware pre-installed.
- **GNSS.** Beitian BE-220 (UBX-M10050-KB) GNSS Module.
- **Integrated Power.** Internal 1100mAh LiPo (charge via 5V USB-C cable, included) for extended unplugged use.
- **Connectivity.** USB/Serial, SD card, WiFi and BLE. Flexible $\frac{1}{2}\lambda$ SMA whip antenna for 915 MHz.
- **Case.** Rugged plastic with user buttons and white OLED display. Includes standard 1" webbing and clips.

🛠 Applications

- Industrial sensor telemetry and equipment monitoring.
- Field reconnaissance and situational awareness.
- Off-grid team communications and GPS tracking.
- Search-and-rescue and emergency response.
- Agricultural and environmental monitoring.
- SCADA mesh extension and asset tracking.
- Wilderness safety and backcountry messaging.
- Event and festival staff coordination.

🌐 Resources

- [Xtensa ESP32-S3 Datasheet](#)
- [Ebyte EoRa PI User Manual](#)
- [Ebyte E22-400MM22S User Manual](#)
- [Semtech SX1268 Datasheet](#)
- [Beitian BE-220 GNSS Datasheet](#)
- [U-Blox M10050 Summary](#)

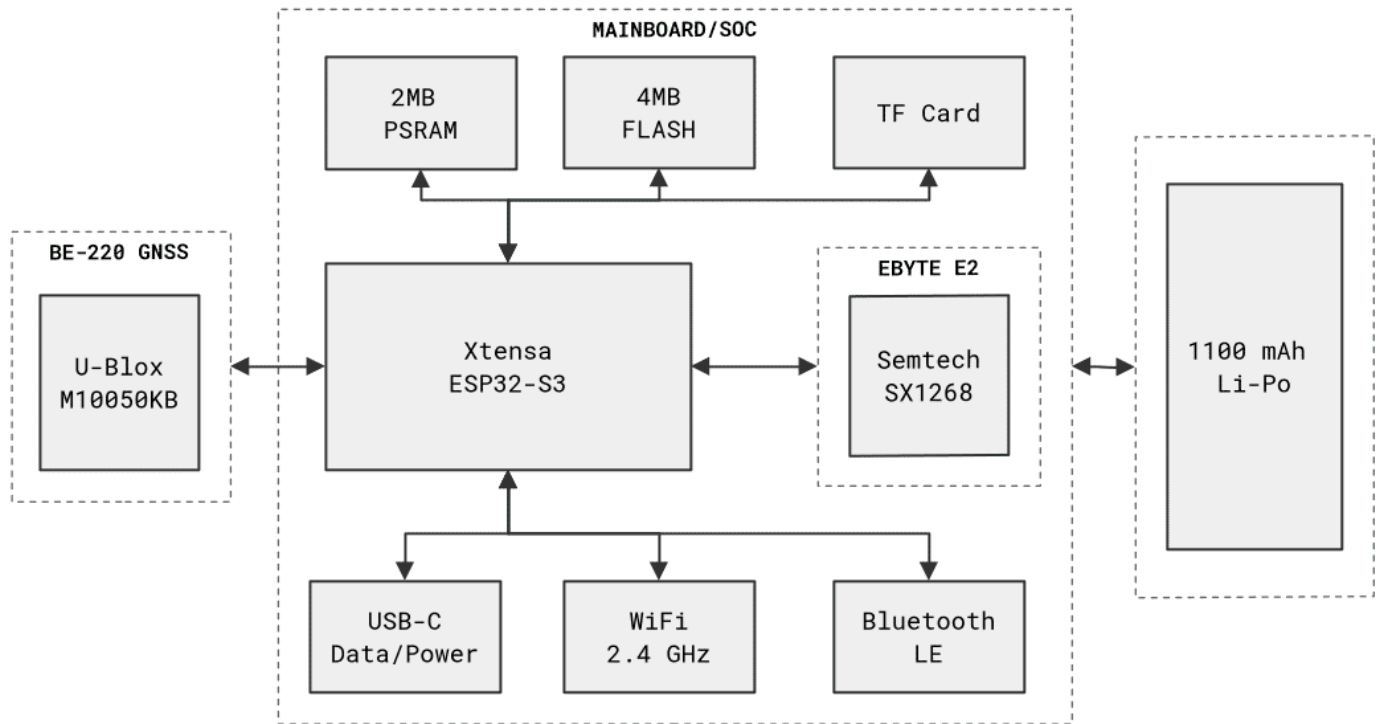
📦 Availability

- Production samples are available from the [Project Tarn Sample Store](#).
- The design is available for licensing — exclusive or non-exclusive manufacturing and distribution licenses are available; please contact <mailto:licensing@tarn.parts> for more information.

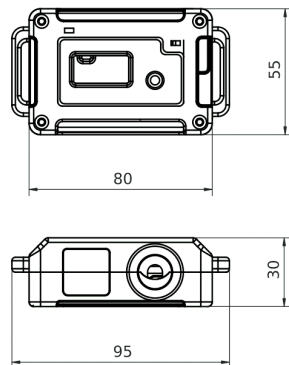
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Diagram

The **Ebyte EoRa-PI** mainboard is built around the Xtensa ESP32-S3 MCU, with bidirectional interfaces to a Beitian BE-220 GNSS module and the Ebyte E22-400MM22S LoRa module featuring the Semtech SX1268 transceiver. A 1100 mAh Li-Po cell provides uninterrupted system voltage.



Dimensions



- Weight: **125 g**
- Dimensions: **30 × 95 × 55 mm**
- Antenna: **170 mm**
- Packaging: **Cardboard Carton**
- Package Weight: **0.25 kg**
- Package Dimensions: **15 × 15 × 5 cm**

Attention

- **Antenna.** Do not energize device without antenna.
- **Power.** Use approved 5V (Class 2, >500mA) power sources. Handle Li-ion cell with care; avoid short circuits; disable battery for long-term storage.
- **Environment.** Not intended for liquid immersion or extreme humidity and temperatures.

Regulatory

- Samples obtained from the Tarn Sample Store are non-certified manufacturing/production commercial samples for evaluation and testing purposes only; consumer resale and re-export is strictly prohibited.