T114 and T3-S3: New Hardware for 2025-2026

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The 2024-2025 product refresh introduced two boards that are quickly becoming community favourites: the **Heltec** Mesh Node T114 and the **LILYGO** T3-S3. (Note: the T114 is a Heltec board, not a LILYGO board.) Both pair an SX1262 LoRa radio with a modern microcontroller, but they target distinctly different use cases and operator needs.

T114 -- Compact Infrastructure Node

The Heltec Mesh Node T114 combines Nordic Semiconductor's nRF52840 with the SX1262 in a compact form factor with a small 1.14″ TFT. It is well suited to infrastructure deployments as well as light handheld use:

- **MCU:** nRF52840 (ARM Cortex-M4F at 64 MHz)
- **Radio:** SX1262 -- MeshCore and Meshtastic compatible; ~21±1 dBm TX (bare SX1262, no external PA)
- **Display:** 1.14″ TFT
- **Connectivity:** USB-C for power and programming; BLE for phone pairing
- **Power:** Leverages the nRF52840's exceptional sleep current (sub-25 µA) -- suitable for solar deployments on very small panels; includes a solar charge connector
- **Form factor:** Smaller than a T-Beam; easy to fit in weatherproof enclosures

The T114 is a strong choice for infrastructure roles thanks to its low sleep current and small footprint. For a repeater node on a rooftop or inside a pelican case, the compact board fits easily. Community feedback has been overwhelmingly positive: operators report clean BLE pairing, reliable SX1262 performance, and excellent battery life. Firmware is entered via a DFU double-tap reset. The one common complaint is that the small PCB can be finicky to solder antenna connectors to, so purchasing the version with a pre-soldered U.FL connector is recommended.

Firmware support: Meshtastic ships official T114 firmware. MeshCore also supports the T114 with its nRF52840 build.

T3-S3 -- The WiFi-Capable LoRa Node

The LILYGO T3-S3 pairs Espressif's ESP32-S3 with an SX1262 and is positioned as a direct competitor to the T-Beam Supreme in the WiFi-capable segment:

- **MCU:** ESP32-S3 (ESP32-S3FH4R2) dual-core at 240 MHz, 4 MB flash, 2 MB PSRAM
- **Radio:** SX1262
- **GPS:** No onboard GPS; optional external GPS module via header (Meshtastic docs list the T3-S3 as "No GPS")
- **WiFi:** 802.11 b/g/n via ESP32-S3 -- enables MQTT bridging and web config
- **USB-C:** Yes, with native USB on ESP32-S3 (faster flashing, serial CDC without external chip)
- **Form factor:** Slightly more compact than T-Beam Supreme; no integrated keyboard

The T3-S3 is a useful WiFi MQTT gateway option for existing T-Beam deployments. Where the original T-Beam uses an older ESP32, the T3-S3's ESP32-S3 offers native USB and handles concurrent WiFi and LoRa tasks more reliably. With 4 MB flash and 2 MB PSRAM it has enough headroom for Meshtastic's typical WiFi/MQTT workload, though it is not a large-memory board (2 MB PSRAM, not the 8 MB found on the T-Deck), so running every feature simultaneously should not be assumed.

Availability and Pricing (as of 2026-06-08)

- The T3-S3 is available directly from **lilygo.cc**; the T114 from Heltec and resellers, typically with 2-3 week shipping from Shenzhen
- Amazon listings exist for both boards (US warehouse stock, faster shipping, approximately 15-20% price premium)
- AliExpress offers the lowest prices but longest lead times
- T114: approximately $18-34 USD depending on variant/GPS option (as of 2026-06-08) -- prices are volatile; see the Mid-Range Devices page for the same board
- T3-S3: approximately $25-32 USD without GPS module (as of 2026-06-08) -- verify against the lilygo.cc listing

Community Verdict

Both boards have earned strong reputations in the mesh community since their wider availability in mid-2024. The T114 is now a popular recommendation for solar repeater builds in the RAK4631's price range, particularly where MeshCore compatibility is required. The T3-S3 is a recommended ESP32 platform for new WiFi gateway deployments, preferred over the ageing T-Beam for its updated silicon and USB-C convenience. Operators upgrading from T-Beam v1.1 hardware should

consider the T3-S3 as a modern replacement.

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