Heltec Mesh Node T096

Overview

The **Heltec Mesh Node T096** (Heltec's nRF52 part naming follows the HT-n5262 / HT-n5262M family) combines an nRF52840 MCU with an SX1262 radio and an *integrated power amplifier*. Heltec rates its maximum TX power at **28±1 dBm** via that PA — well above the SX1262's bare native +22 dBm — which it pairs with on-board GPS and an ultra-low sleep current, making it purpose-built for solar and remote deployments. *(TX-power figures for Heltec PA boards are contested across third-party sources; the 28±1 dBm here reflects Heltec's own current spec — verify against heltec.org before relying on it.)*

Specifications

Attribute	Value
Price	~$30 (Heltec lists ~$29.90-$33.90 depending on date/variant; as of 2026-06-08)
MCU	nRF52840
Radio	SX1262 + integrated power amplifier
TX Power	28±1 dBm (per Heltec, via integrated PA; verify against heltec.org)
GNSS	UC6580 - L1+L5, 6 constellations (GPS, GLONASS, BeiDou, Galileo, QZSS, NavIC)
Display	0.96″ color TFT (commonly 160×80 panels; confirm resolution against Heltec datasheet)
Sleep Current	12 µA
Bluetooth	BLE 5 + Bluetooth Mesh
Battery Connector	1.25 mm lithium
Solar Input	1.25 mm solar connector
MeshCore Support	Yes (compatible with Meshtastic and MeshCore per Heltec)

T096 vs. Heltec V4

Feature	T096	V4
TX Power	28±1 dBm (Heltec, via PA)	~22 dBm stock (contested; some sources cite up to ~27-28 dBm on PA variants — verify against heltec.org)
Price	~$30 (as of 2026-06-08)	~$17 - 20 (as of 2026-06-08)
GPS	Yes (UC6580, L1+L5)	No
Wi-Fi	No	Yes
Sleep Current	12 µA	Higher
Best Role	Solar / remote / field	Indoor / USB-powered nodes

RF output is **not** identical between the two: the T096 reaches 28±1 dBm via its integrated PA, whereas the Heltec V4's stock output is around 22 dBm (higher on some PA variants — the exact figure is contested, so verify against heltec.org). Beyond raw output, the T096's 12 µA sleep current and built-in GPS make it far more suitable for long-term solar-powered deployments, where the V4's Wi-Fi integration goes unused.

Target Use Cases

- Solar-powered relay nodes
- Remote repeaters (mountain tops, rural infrastructure)
- Portable field kits requiring GPS without an external module

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