

# 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](https://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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