

ABH-100-G

GNSS transit tracker · Live location + conditions

ABH-100 family – Offline & transit loggers · Data logger datasheet

LTE Cat-1 + GNSS tracker for high-value and export shipments — live position with temperature and humidity, flight mode for air legs.

5 channels	IP65	LED indication	409,600 readings	Battery: ≈7.3 d per charge (calc.)
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Specifications

Product type	Online · cellular tracker
Sensing channels	5 — Temperature · Humidity · Position
Temperature	SHT41 · ±0.2 °C typ
Humidity	SHT41 · ±1.8 %RH typ
Position	GNSS lat/lon/speed · fix every 300 s
Measurement accuracy	±0.2 °C typ · ±0.4 °C max (0–65 °C) on-board SHT41
Display & indication	LED status indicator (green = OK · blinking red = excursion · solid red = fault)
Connectivity	SIMCom A7672S (India) / A7672E (EU) LTE Cat-1 · u-blox MAX-M10S GNSS — LTE FPC + GNSS patch (internal)
Power	EEMB LP103454LC 2000 mAh Li-ion polymer (–40 °C grade) · BQ25180 JEITA charger · MAX17048 gauge
Battery life	≈7.3 d per charge (calculated, spec-compliant logging at firmware defaults; ≈0.7 d at –20 °C · sparse mode ≈28 d) — Per-pack modem power floor protects the cell in cold
Memory	16 MB W25Q128JV · 409,600 readings · separate never-erased audit region
Sample interval	60 s default · GNSS fix 300 s · upload window 15 min
Enclosure	88.2 × 69.9 × 28.0 mm · Healthcare-grade disinfectant-resistant PC/ABS · UL94 V-0 · white
Ingress protection	IP65 (design target)
Mounting	Keyhole (2×) + bonded 10×2 mm magnets · TPE bumper
Operating band	–20 to +45 °C charging · discharge duty to –40 °C-class pack
Firmware & transport	Signed .abhfw packages · dual-bank A/B · RSA-2048 · trial boot with automatic rollback · MQTT over TLS 1.2+ with per-device credentials (mTLS supported) · X.509 identity
Factory identity	ABH-[model]-[YYWW]-[5-digit sequence] — factory identity written to the ID EEPROM
SIM	Nano-SIM (MFF2 eUICC land as DNP option)

Local indication	LED status indicator (green = OK · blinking red = excursion · solid red = fault)
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Applications

High-value shipments, live location	LTE Cat-1 + GNSS tracker with flight mode for air legs and excursion alerts in transit.
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Part of the Abhilekh platform

One 80 × 50 mm 4-layer platform PCB — 145 parts, single-sided SMT — becomes 20 SKUs by BOM selection and a SKU record in the on-board ID EEPROM.

Firmware updates	Signed .abhfw packages · dual-bank A/B · RSA-2048 · trial boot with automatic rollback
Data transport	MQTT over TLS 1.2+ with per-device credentials (mTLS supported) · X.509 identity
Offline evidence	Plug an offline logger into a PC and it enumerates a FAT16 drive with README.TXT, DATA.CSV and an ECDSA P-256-signed REPORT.PDF — a self-verifying trip record.
Calibration	Probe channel templates live in the ID EEPROM; the platform tracks NIST-traceable calibration certificates, due dates and reminders per probe.
Certification roadmap	EN 12830:2018 — temperature recorders · CE — RED / EMC / safety · FCC Part 15 · WHO PQS E006 — vaccine cold chain · IEC 61010-1 / IEC 62368-1 · UN 38.3 / IEC 62133-2 — cells & packs — targets, not held certificates

The ABH line is at the design-frozen, pre-production stage: every enclosure has passed generated fit-check geometry (791/791 checks, 20/20 SKUs) and every battery-life, drop, thermal and IP figure shown is a calculated or simulated design estimate — measured values replace them as validation hardware runs. Regulatory marks above are the certification roadmap, not held certificates.

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