MINRIX LLC.

TECHNICAL DATA SHEET · IoT DEVICES

# RFID Temperature Tag

NFC + UHF dual-frequency paper label that identifies each item and logs its temperature — for cold-chain monitoring and full quality traceability.




## Key figures

FREQUENCIES
**NFC + UHF**
13.56 MHz · 840–960 MHz

ACCURACY
**±0.5 °C**
operating −20 … +50 °C

DATA LOG
**20,000**
readings · interval from 1 s

MEMORY
**160 kbit**
user area up to 8 kbit

PROTOCOLS
**ISO 15693**
ISO 14443-A · EPC Gen 2

FORMAT
**3 sizes**
paper label, self-adhesive

## Product description

In cold-chain transport, temperature-sensitive goods such as medicines and fresh food are easily damaged when the temperature leaves the allowed range — and without monitoring, nobody can prove where it happened.

The MinRix RFID Temperature Tag identifies each item and measures and records the temperature around it during storage and transport. A built-in EEPROM stores the readings at a set interval, so every shipment can be checked on arrival and traced end to end. The tag combines two contactless interfaces: HF / NFC (ISO/IEC 14443-A and ISO/IEC 15693) for reading with a smartphone, and UHF (EPC Class 1 Gen 2) for automatic reading in the warehouse and at the dock door.

## Functions

REAL-TIME MONITORING
**Temperature checked at every step**
Shows whether goods stayed within the allowed range during storage and transport.

DATA LOGGING
**20,000 readings**
±0.5 °C accuracy, intervals from 1 s, stored on the tag.

MOBILE CHECK
**Tap with NFC**
Accept deliveries on the spot with a smartphone — no download cable.

AUTOMATED COLLECTION
**UHF reading**
Read many tags at dock doors and in the warehouse — no manual records.

SECURE IDENTIFICATION
**Unique ID per tag**
Supports authenticity checks and anti-counterfeiting traceability.

ALERTS
**Battery and light**
Low-battery warning and light sensor that flags an opened package.

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## Specifications

| | |
|---|---|
| **Product type** | Battery-assisted RFID temperature data-logger label (paper label, adhesive back) |
| **Air interfaces** | HF / NFC 13.56 MHz and UHF 840–960 MHz (dual frequency) |
| **Standards / protocols** | HF: ISO/IEC 14443-A, ISO/IEC 15693 · UHF: EPC Class 1 Gen 2 (ISO/IEC 18000-63) |
| **NFC function** | Supported — read with an NFC smartphone or handheld |
| **Label sizes** | 125 × 90 mm · 85.5 × 54 mm (card size) · 55 × 35 mm |
| **Operating temperature** | −20 … +50 °C |
| **Temperature measuring range** | −20 … +35 °C |
| **Temperature accuracy** | ±0.5 °C |
| **Logging interval** | Programmable, from 1 s |
| **Total memory** | 160 kbit EEPROM |
| **User memory** | Customisable, up to 8 kbit |
| **Temperature log area** | Adjustable size |
| **Max. stored readings** | 20,000 temperature data points |
| **Low-battery alert** | Supported |
| **Light (photosensitivity) alert** | Supported — flags opening / exposure of the package |
| **Installation** | Self-adhesive label |

## Applications

**Fresh food**
Fruit, vegetables, meat, seafood, dairy

**Pharmaceuticals**
Medicines, vaccines, diagnostics

**High-end cosmetics**
Temperature-sensitive formulations

**Other goods**
Chemicals, electronics, any cold-chain item

Specifications are typical values and may change without notice; size, memory split, logging interval and print design are confirmed in the MinRix quotation.

Battery life depends on the logging interval and the storage and transport conditions.

Samples and a reading demo (NFC app / UHF reader) are available on request: tech@minrix.com.

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