

RADIALIF Smart Pad

Operator's Manual

Description

Thank you for purchasing the **RADIALIF Series Physiological Monitor**. Please read this manual carefully before use to ensure correct and safe operation.

Keep this manual for future reference.

Product Name: RADIALIF Smart PAD

Model: RLIF 101-Grey, RLIF 101-Black, RLIF 101-White

Composition: Main controller, battery, mobile app, and accessories (including embedded TMAX RADIALIF monitoring software)

Function: Monitors and records ECG, respiration (RESP), bed-exit (OFF BED), SpO₂, pulse rate (PR), and sleep conditions; data can be displayed, reviewed, stored, and printed.

Manufacturer: TMAX Smart Technology Co., Ltd.

Address: 6F, No.108, Sec.1, Xintai 5th Rd., Xizhi Dist., New Taipei City, Taiwan

Release date: November 2024

Intellectual Property

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Disclaimer

TMAX reserves the right of final interpretation.

The company is only responsible for product safety, reliability, and performance **if all the following are met:**

- Assembly, adjustment, and repair are performed by authorized professionals.
- All replacement parts and accessories are genuine or approved by TMAX.
- Electrical installations comply with national standards and this manual.
- Operation follows the procedures described herein.

Warranty and Service

Warranty period follows the sales contract.

Consumables (e.g., disposable electrodes) are **not** covered.

Warranty starts from the installation date recorded on the **Warranty Card**, which must be returned within 30 days.

Failure to return or incorrect serial number voids warranty eligibility.

Even within warranty, service fees apply for:

- Human-caused damage
- Improper use or over-voltage
- Force majeure (natural disasters)
- Unauthorized parts or servicing

After warranty expiration, paid repair services remain available.

Service contact:

TMAX Smart Technology Co., Ltd.

6F, No.108, Sec.1, Xintai 5th Rd., Xizhi Dist., New Taipei City, Taiwan

 +886 2 2696 7500  www.beautysleep.com

Preface

This manual explains the functions, operation, and safety precautions of the product.

Read carefully before use to ensure proper operation and safety for users and patients.

Keep it near the device for quick reference.

Warnings

- For single-person use only.
- Inspect device, cables, and accessories before use.
- Use only grounded outlets or battery power.
- Do **not** operate near oxygen or flammable agents.
- Do **not** open the casing—risk of electric shock.
- Only trained service personnel may repair or upgrade.
- During defibrillation, **do not touch** the patient.
- Set alarm limits properly; do not rely solely on sound alarms.
- Displayed physiological data are for **reference only**, not for direct diagnosis.
- Prevent cable entanglement and keep packaging away from children.
- Maintain continuous power supply to avoid data loss.

Cautions

- Use only specified accessories.
- Dispose of expired parts following local regulations.
- Avoid strong electromagnetic fields (phones, X-ray, MRI).
- Verify power voltage/frequency before connection.
- Handle carefully; avoid drop, vibration, or impact.
- Dry immediately if exposed to moisture.
- Do not mix electrode types or brands.

2. Overview

Intended Use

The RADIALIF Health Monitor continuously measures **heart rate**, **respiration**, and **body condition**, allowing display, review, storage, and printing.

Contraindications: None.

Specifications

Item	Specification
Model	RLIF 101-Grey/RLIF 101-Black/RLIF 101-White
Bluetooth	4.0
Controller size	6.1 × 4.0 × 1.4 cm
Antenna size	30 × 93 × 2.5 cm
Battery life	6 – 7 hours
Charging time	3 hours
Connector	Type-C
Battery capacity	75 mAh
Power consumption	0.06 W
Input voltage	5 V DC
Input current	< 0.5 A

Front View

- **Power button:** Short press to turn on; long press to turn off. LED indicates power status.
- **LED indicator:**
 - On = powered
 - Off = no power
 - Blinking = monitoring in progress
- **Signal cable:** Connects controller and antenna.
- **Type-C port:** For antenna connection.

Mobile App

Connects to your phone via **Bluetooth**.

Displays physiological data including **sleep, heart rate, respiration, HRV, stress, and energy index**.

3. Basic Operation

Installation

- Follow TMAX's recommended setup procedure.
- All connected devices must comply with **IEC 60601-1** standards.
- Ensure the entire system's electrical safety before integration.

Unboxing

Inspect for damage; check components against the packing list.

Keep packaging for future transport.

Environmental Requirements

Operate in a clean, dry, and vibration-free environment.

Leave at least **5 cm (2 inches)** clearance for ventilation.

If moved from a different climate, wait for condensation to dissipate before use.

Power-On Sequence

1. Check for visible damage.
2. Connect to power (or ensure battery charge).
3. Press the power button.

If malfunction occurs, contact service personnel immediately.

Start Monitoring

1. Select Start button
2. Connect antenna.
3. Check bed placement.
4. Confirm Bluetooth connection.
5. Verify settings.
6. Review detailed parameter sections for usage.

Power-Off

1. Confirm monitoring is complete.
2. Save or delete patient data.
3. Long press power button to shut down.
(Force-shutdown > 10 sec may cause data loss.)

App Operation

Sleep Monitoring

Automatically detects and records **sleep duration, stages, movements, and score**.

Results viewable via **RADIALIF Connect**.

- Tracks REM, core, and deep sleep phases.
- Shows trends over 14 days.
- Data excludes naps outside the mattress area.

Body Energy Index

Analyzes **HRV, stress level, sleep quality, and activity** to determine an **energy index (5–100)**.

- 0–25: Very low
- 26–50: Low
- 51–75: Medium
- 76–100: High

Tips:

- Use mattress with smart pad consistently for accuracy.
- Quality sleep restores energy.
- Stress and intense activity reduce energy faster.

Heart Rate Variability (HRV)

Assesses autonomic balance and recovery state from nightly readings.

Displays trend graphs and 7-day averages:

- Balanced - Imbalanced - Low - Poor - Insufficient data

Stress Level

Real-time display with color-coded graph:

- Blue = Rest Yellow = Stress Gray = Unclassified

Heart Rate Function

Shows real-time bpm, 4-hour and 7-day history, and custom alerts.

Alerts trigger vibration when HR exceeds preset high/low limits.

Not for diagnosis—consult a physician for any cardiac concerns.

Heart Rate Zones

Zone	% Max HR	Effort	Benefit
1	50–60 %	Relaxed, easy pace	Basic warm-up
2	60–70 %	Comfortable	Aerobic base, metabolism
3	70–80 %	Moderate	Improve endurance
4	80–90 %	Hard	Boost anaerobic threshold
5	90–100 %	Sprint	Power and stamina

Max HR = 220 – age (default estimate).

User Profile

Update **gender, birth year, height, weight, HR zones** in the app or device.
For best accuracy, select birth-assigned gender as default algorithm basis.

Music Function

Supports three playback methods:

1. Third-party streaming services
2. Personal audio files (.mp3, .m4a)
3. Phone-stored music

Connect via Bluetooth.

For offline playback, sync online every 7 days to renew music licenses.

Use **RADIALIF Express™** on PC to transfer music files.

Wi-Fi connection required for downloads from streaming providers.

Bluetooth Notifications

Pair with smartphone to receive smart notifications and manage **Do Not Disturb, activity, and privacy** settings.

Bluetooth link can be toggled in the quick menu.

History

Stores up to **200 hours** of activity data; older data is overwritten.

Sync to **RADIALIF Connect** for unlimited cloud storage and analysis.

Female Health Tracking

Tracks **menstrual cycle, ovulation, mood, discharge, libido**, etc.

Setup required via RADIALIF Connect before recording on device.

W1 Therapeutic Wave (Requires RF Antenna & Hardware Modulation)

- Emits **Schumann resonance** at **7.83 Hz**.
- Starts automatically at sleep initiation; user-configurable time and frequency.
- Pauses physiological monitoring during emission.

About Schumann Resonance:

In 2011, Wang Xuemin's research demonstrated that low-frequency magnetic stimulation increases low-frequency brainwave power and suppresses high-frequency activity, indicating a resonant effect that calms the cerebral cortex. 7.83 Hz matches the brain's **alpha wave** and the hippocampal rhythm in mammals.

NASA installs Schumann generators in spacecraft to stabilize astronauts' mental and physical state.

Enhancing this frequency helps shift the human brain from tense **β waves** to relaxed **α waves**, restoring natural wellness.

W2 Therapeutic Light Wave

- Emits **5 – 100 Hz** variable-frequency therapeutic pulses.
- Starts at sleep onset; user-defined duration and repetition.
- Suspends physiological monitoring during emission.

1. FCC Part 15.19 — Compliance Statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) this device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

2. FCC Part 15.21 — Modification Warning

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

3. FCC Part 15.105 — Class B Digital Device Interference Statement

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

4. FCC RF Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.

This equipment should be installed and operated with minimum distance of 20 cm between the radiator and your body. This transmitter must not be co-located or operated in conjunction with any other antenna or transmitter.