

MWORLD

Smart Ring

Mworld M1

STATEMENT

1. The blood pressure and cardiovascular measurement functions are suitable for people with cardiovascular risk and for healthy individuals. Measuring one's own blood pressure and cardiovascular risk helps in understanding personal health conditions. The measurement results are not intended to serve as a basis for determining whether individuals with hypertension or cardiovascular risk should take medication. Users with circulatory disorders or cardiovascular diseases should conduct testing and treatment under the guidance of a physician. The product's measurement results are for reference only.

2. The product, accessories, and user interface illustrations in this manual are for illustrative purposes only. They are for reference only, and the actual product may differ slightly from the illustrations. Please refer to the actual product.

Product Name: MWorld Smart Ring

Model Specification: MWorld

Intended Use:

Based on photoplethysmography (PPG), the device non-invasively collects PPG signals from the fingertip pad to monitor human cardiovascular risk status. It also detects seven basic emotions, complex emotions, stress, fatigue, blood pressure / blood oxygen / heart rate, etc. With a built-in gravity sensor and temperature sensor (optional), it can measure body temperature, physical activity, and sleep quality. The results are for patient or clinical reference only and not intended for diagnostic use.

Product Model: MWorld

Maximum Thickness: 2.8 mm

Product Material: Stainless Steel and Microcrystalline Ceramic

Product Weight: 3g – 5g

Battery Capacity: 18 – 28 mAh

App Download and Installation

The "Mworld Ring" application is required to activate, configure, and view all data collected by your smart ring.

Download Instructions:

Using QR Code: Use your phone's camera to scan the QR code provided below. This will automatically redirect you to the correct download page for your device. Using App Store: Open the App Store (iOS) or Google Play Store (Android) on your smartphone. Search for "Mworld Ring" and select the official app to download and install.

After installation, open the app and follow the in-app guide to:

Create your user account.

Pair your ring with your phone via Bluetooth.

Customize your settings and goals.

Download :



[Download on the App Store]



[Get it on Google Play]

	Internal Power Type
Electric Shock Protection Classification:	Type BF
Ingress Protection Rating (Dust and Water Resistance):	IP68 / 10ATM
Safety Classification for Use in the Presence of Flammable Anesthetic Mixtures with Air, Oxygen, or Nitrous Oxide:	Not AP type, Not APG type
Operating Mode:	Continuous operation
Power Supply:	Internal power: lithium battery Battery Voltage: DC 3.7 V
Battery Life:	Operating time under full charge is not less than 72 hours

[Main Performance]

Test Items:	Heart rate, blood oxygen, blood pressure, cardiovascular risk status, body temperature (optional), step counting, fatigue level, stress, sleep, emotion
Algorithm Support:	Hormone Index, Body Energy, Cardiovascular Analysis, etc.
Other Functions:	Gesture photo-taking, touch control (optional)

[Precautions]

1. Please read the user manual carefully before use. Failure to do so may result in improper operation or accidental injury.
2. Although this product meets medical-grade standards, the measurement results are for reference only and cannot be used as a basis for diagnosis.
3. This product does not support automatic continuous measurement or dynamic measurement. Each measurement must be initiated manually. It is recommended to rest for five minutes before starting a measurement.

4. Do not take measurements immediately after eating, bathing, drinking tea/alcohol, or smoking. Wait at least one hour before measuring.
5. After urination or defecation, please wait 10 minutes before measuring.
6. Do not use the device in moving vehicles. A mobile environment may cause abnormal results.
7. Do not start measurements continuously. It is recommended to wait 2–3 minutes or longer between measurements.
8. For medical procedures with explicit restrictions, such as CT scans, please remove this product according to your doctor's instructions.
9. Sudden temperature changes may cause device instability. Please ensure ambient temperature is stable before measuring.
10. Avoid using the measurement function when the device's battery is low, to prevent interruptions or inaccurate results.
11. This product contains a lithium battery. If you need to dispose of the product, please treat it as hazardous waste in accordance with local regulations.
12. Store the device in a location out of reach of children, to prevent accidental swallowing, biting, or playing with the charging cable, which may cause device damage or accidental choking/injury.

13. This product is intended for adults who do not currently require medical intervention and can manage their health independently at home. If your heart rate, blood oxygen, blood pressure, or other indicators have reached life-threatening levels, it is not recommended to use this product for monitoring. Please seek immediate medical attention at a healthcare facility.

[Contraindications]

1. Newborns, infants weighing less than 10 kg, or patients unable to express themselves.
2. Patients with wounds or inflammation on their fingers.
3. Patients undergoing infusion or blood transfusion through catheters inserted in the wrist or arm.
4. Patients who are unable to bend their arms voluntarily or cannot control finger tremors.
5. Patients currently connected to medical diagnostic or monitoring equipment.
6. Patients from whom normal pulse wave signals cannot be collected.
7. Patients with material allergies.

[Installation and Use]

(1) Charging and Powering On

This product uses a rechargeable lithium battery that supports repeated charging. If the device cannot be powered on, it indicates that the battery is low and needs to be charged. The charging steps are as follows: Connect the USB end of the charging cable to the power adapter. Attach the magnetic charging end of the cable to the charging port on the device, as shown in Figure 1.

During charging, the ring's red light will turn on. When fully charged, the red light will stay on.

After charging is complete, please remove the ring from the charging case promptly or disconnect the power adapter.

You can check the current battery level via the app.

⚠ Note! The charging case provided with this product contains a 300mAh lithium battery, which can charge the device approximately 10 times.

⚠ Note! To charge the charging case, the user needs to prepare a DC 5V 1A power adapter. The charging interface uses magnetic absorption; if the connector repels, it means the direction is incorrect—please reverse and reconnect.

⚠ Note! The device cannot be operated during charging, which is a protective mechanism, not a malfunction.

⚠ Warning! Charging must be carried out in a dry environment. Do not splash water, alcohol, or immerse the charging port, to avoid short circuits and damage to the device.

⚠ Warning! Do not use metal objects to directly connect the two poles of the device's charging port, to avoid battery short circuits that may cause accidental injury.

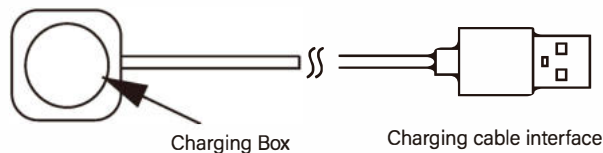


Figure 1: Charging Connection Diagram

(2) Wearing the Device

As shown in Figure 3, wear the device on the base of a finger that fits the ring size, with the LOGO facing the finger pad.

⚠ Note! When using the measurement function, the ring should be worn snugly, otherwise the results may be inaccurate.

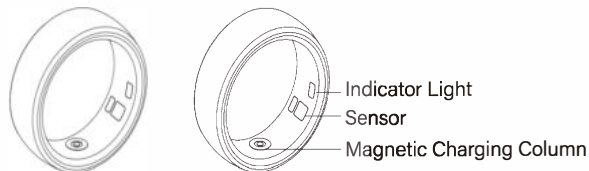


Figure 2: Charging Port and Ring Structure Diagram



Figure 3: Wearing Diagram

(3) Measurement Posture

To obtain accurate measurement results, please position your body as shown in Figure 4.

1. Sit upright on a chair with both feet flat on the ground, and remain still.
2. According to the user's height, choose a stable table with a height of 60–80 cm. Place the hand wearing the device palm-up, and rest the entire arm flat on the table (see Figure 4).

⚠ Note! During measurement, do not move, speak, stand up, or bend/shake your arm or fingers, as this may lead to abnormal results.

⚠ Note! Keep your body relaxed and make sure clothing is loose and does not cause pressure on the arm.



Figure 4: Measurement Posture Diagram

(4) Blood Pressure Measurement - Calibration

1. Before calibration, please prepare a traditional blood pressure monitor (pneumatic blood pressure monitor) as the calibration target.
2. During calibration, the traditional blood pressure monitor should be measured on the same arm as the ring.
3. The blood pressure data entered during calibration is obtained simultaneously with measurements taken by a third-party blood pressure monitor (pneumatic blood pressure monitor).

⚠ Note! For the same user, before using the blood pressure measurement function for the first time, please complete 7 rounds of calibration to obtain more accurate results. If you only intend to use other blood pressure-related features, you may skip the blood pressure calibration and proceed with direct measurement.

⚠ Note! Please maintain the correct measurement posture before starting the blood pressure calibration.

⚠ Note! It is recommended to perform one calibration session per month.

1. On the Health page of the app, tap the "Blood pressure" option.
2. Tap "Start Calibration" to enter the calibration interface and follow the app instructions to complete two rounds of calibration.
3. During calibration, wear the ring on a suitable finger at the base, make sure it is snugly fitted, and ensure the waveform is smooth. Tap "Start Calibration", remain quiet, and wait 1 minute until the blood pressure input screen appears.

4. Then, use an upper-arm electronic sphygmomanometer certified under standardized protocols (AAMI / ESH / ISO), or a mercury sphygmomanometer compliant with metrological requirements. Conduct a standard blood pressure measurement on the same arm where the ring is worn, and enter the measured systolic (high) and diastolic (low) pressure values into the respective input fields. Submit to complete the calibration.

5. For hypertensive users undergoing medication treatment, please perform calibration twice: once before taking medication, and again 2–2.5 hours after medication.

6. For non-hypertensive users, after the first calibration, you may calm down and then repeat steps 1, 2, 3, and 4 to complete the second calibration.

7. After completing both calibrations, click "Start Modeling" to establish your personalized blood pressure model.

(5) Cardiovascular Measurement

⚠ Note! Please maintain the correct measurement posture before starting cardiovascular measurement.

⚠ Note! Make sure the logo side of the ring is aligned with the finger pad, worn snugly, and the waveform is smooth and regular.

⚠ Note! The measurable blood pressure range is between 40 mmHg and 220 mmHg.

1. On the Health page of the app, tap the "Cardiovascular" option.
2. Tap "Start Measurement" to enter the measurement page.
3. Wait quietly for about 1 minute. When the pulse waveform displayed on the app resembles the stable curve shown in Figure 5, tap "Start Measurement".
4. Once the measurement begins, a countdown timer will appear on both the device and the app. Wait patiently for 1 minute. The app will then display your cardiovascular measurement results, and the analysis results will be saved in the history records.

Please note: Blood pressure results are displayed as a range. The cardiovascular measurement is a risk assessment of cardiovascular status, intended only for screening and early warning, and not for diagnosis.

(6) Hormone Index Measurement

This index is obtained through comprehensive modeling based on the body's bioelectrical signals and other physiological indicators. It does not represent actual hormone concentrations in the human body.

The results of biochemical level measurements are for reference only and cannot be used as a basis for diagnosis.

⚠ Note! If blood pressure measurements are found to be inaccurate, please recalibrate using a standard blood pressure monitor before proceeding.

⚠ Note! If you need to terminate the measurement process, please tap the back icon and confirm to exit.



Figure 5: Pulse Waveform Diagram

[Interpretation of Measurement Results]

The blood pressure measurement results provided by this product are for reference only and do not serve as a basis for diagnosis. You may refer to the following classification to understand your blood pressure condition:

	Systolic Pressure (mmHg)		Diastolic Pressure (mmHg)
Normal	< 120	and/or	< 80
High-Normal	120–139	and/or	80–89
Hypertension	≥ 140	and/or	≥ 90

⚠ Note: The above classification is based on the “2018 Revised Edition of the Chinese Guidelines for Prevention and Treatment of Hypertension.”

[Maintenance and Care]

(1) Please maintain and care for the product according to the following guide-lines to keep the device in optimal condition.

- 1.If the device body becomes dirty, please wipe it clean with a damp soft cotton cloth. Do not use mechanical cleaning equipment or wipe the device with gasoline, thinner, or other solvents.
- 2.Keep the device body away from rough or hard objects to prevent scratches or impacts. If the device is cracked due to accidental collision, stop using it immediately and contact after-sales service.
- 3.This product has a high level of dust and liquid ingress protection, and is designed to be serviced only by the manufacturer. Specialized tools are required for disassembly. Do not disassemble the device yourself. If you encounter a malfunction that cannot be resolved, please contact after-sales support.
- 4.Avoid exposing the device to direct sunlight for extended periods. Excessive heat may cause circuit or battery aging or malfunction.
- 5.It is recommended that only you use the device. Wipe the device clean once a week. If used by others, it is recommended to disinfect the device before and after use by wiping it with a soft cotton cloth lightly moistened with 75% alcohol.

⚠ Note! If the device is damaged due to improper maintenance or usage, the company will not be responsible for any quality-related liability.

(2) Troubleshooting Guide

The table below lists common issues that may occur during use and their corresponding solutions. If you experience similar situations, please refer to the guidance below.

⚠ Note! If you are unable to eliminate or resolve abnormal problems or faults, please contact after-sales service for assistance.

Common Issue	Solution
The device does not respond after pressing the operation button	Battery is low. Please charge the device.
Repeated measurement failures, or readings are abnormally high or low.	Check if the device is worn correctly and if it is properly connected to the mobile app.
	Ensure the band is neither too tight nor too loose. Check for dirt on the tested wrist area or on the device sensor. If present, clean thoroughly before retesting.
	Make sure you are in a quiet and relaxed state. Take a few deep breaths before measuring blood pressure.
The device works normally, but results vary significantly with each measurement	Carefully read and follow all precautions listed in the user manual, and eliminate potential causes one by one.

[Operating and Storage Conditions]

(1) Operating Conditions

Temperature: 5°C ~ 40°C

Humidity: 15%RH ~ 80%RH, non-condensing

Atmospheric Pressure: 80 kPa ~ 105 kPa

Input Voltage: DC 5V 1A

- ⚠ Note! Do not use the device near strong electromagnetic fields exceeding 3V/m (e.g., near microwave ovens, X-ray machines, communication base stations), as this may cause measurement deviations or circuit malfunction.
- ⚠ Note! Do not initiate measurements outdoors during thunderstorms, to avoid accidental device malfunction or risk of electric shock.
- ⚠ Note! Avoid using the device in environments with direct sunlight, vibration, corrosive gases/liquids, or flammable/explosive gases/liquids.
- ⚠ Note! If the device has been stored or exposed to environments below 5°C or above 40°C, it should be allowed to acclimate for at least 1 hour within the 5°C ~ 40°C range before use, to avoid measurement errors or malfunction caused by extreme temperatures.

(2) Storage and Transportation Conditions

Temperature: -20°C ~ 55°C

Humidity: 15%RH ~ 80%RH, non-condensing

Atmospheric Pressure: 80 kPa ~ 105 kPa

- ⚠ Note! Avoid storing the device in environments with direct sunlight, moisture, corrosive gases/liquids, or flammable/explosive gases/liquids.
- ⚠ Note! During storage and transportation, avoid tilted placement or conditions prone to dropping or impact.
- ⚠ Note! Do not place the device near high-temperature heat sources, such as microwave ovens, stoves, or ovens.

[Package Contents]

The complete product package includes:1 × MWorld Smart Ring, 1 × Charging Cable, 1 × User Manual, 1 × Quick Guide, 1 × Lanyard

⚠ Note! If the packaging appears dented or damaged upon receipt, or if any components are missing, it is recommended to contact after-sales support for assistance.

[Warranty Policy]

In accordance with national regulations, the service coverage includes: Within the valid warranty period, you are entitled to return, exchange, or repair services under this policy. Returns or exchanges must be supported by a valid purchase invoice, and the shipping costs shall be borne by the user. If the product exhibits any issues listed in the “Performance Failure List”, and such issues are confirmed through inspection, you may receive the following services:

Warranty Period	Service Policy
Within one year	For product quality issues not caused by human factors, repair services will be provided.

Note: The warranty period is calculated from the day after receipt of the product. The after-sales service period is not cumulative or extendable. Please keep the product's original packaging for at least 30 days.

Performance Failure List

Component	Performance Failure Description	
Ring Body	Hardware functions listed in the manual fail	Wearing detection fails
	Bluetooth cannot connect	Unable to charge properly
	Cannot sync with the app device	

[Non-Warranty Policy]

The following situations are not covered under the warranty policy:

- 1.Any unauthorized modification, disassembly, or repair of the product.
- 2.Exceeding the valid warranty period.
- 3.Damage caused during return, exchange, or transportation, including shipping and handling.
- 4.Product damage due to accidental factors or human causes, such as: Liquid ingress; Dropping; Abnormal input voltage; Excessive pressure or deformation; Visible damage from hard objects, cracks, surface scratches, etc.
- 5.Product failures or damage caused by failure to use, maintain, or store the product according to the user manual instructions.

Appendix A: Electromagnetic Compatibility (EMC) Statement

This product complies with the emission and immunity requirements specified in GB 9706.102-2021. EMC standards are specifically formulated for the safe use of medical electrical equipment, setting limits on both: the electromagnetic interference (EMI) the device may emit to other equipment, and the level of electromagnetic disturbance the device itself should tolerate from external sources. Medical electrical devices require specific instructions regarding EMC. This product should be used in accordance with the EMC information described below:

- 1.The Bluetooth module in this product emits radio frequency (RF) radiation, which may interfere with nearby medical equipment or communication base stations. If interference is observed, please stop using the device or move away from the affected area.
- 2.Intentionally transmitting RF communication devices may affect this product. When near such equipment, please stop using this product or keep a safe distance.
- 3.Do not use this product adjacent to or stacked with other electrical equipment.
- 4.Do not use accessories or components other than those specifically designated for this product, as doing so may increase radiation or reduce immunity performance.
- 5.Before using this product, ensure that all EMC requirements stated in this document have been fully met.

Table 1 – Guidance and Manufacturer’s Declaration – Electromagnetic Emissions

This device is intended for use in the electromagnetic environment specified below. The purchaser or user should ensure that the device is used in such an environment.		
Emission Test	Compliance	Electromagnetic Environment – Guidance
RF Emissions GB 4824	Group 1	This device is intended for use in the electro-magnetic environment specified below. The purchaser or user should ensure that the device is used in such an environment.
RF Emissions GB 4824	Class B	This device is suitable for use in domestic settings and in establishments directly connected to the public low-voltage power supply network.
Harmonic Emissions GB 17625.1	Class A	
Voltage Fluctuations / Flicker Emissions GB 17625.2	Complies	

Table 2 – Guidance and Manufacturer’s Declaration – Electromagnetic Immunity

This device is intended for use in the electromagnetic environment specified below. The purchaser or user should ensure that the device is used in such an environment.			
Immunity Test	IEC 60601 Test Level	Compliance Level	Electromagnetic Environment – Guidance
Electrostatic Discharge (ESD) GB/T 17626.2	± 6 kV contact discharge, ± 8 kV air discharge	± 6 kV contact discharge, ± 8 kV air discharge	Floors should be made of wood, concrete, or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30%.
Electrical Fast Transient/ Burst GB/T 17626.4	± 2 kV for power supply lines, ± 1 kV for I/O lines	Not applicable	Mains power quality should be that of a typical commercial or hospital environment.
Surge GB/T 17626.5	± 1 kV line-to-line, ± 2 kV line-to-ground	Not applicable	Mains power quality should be that of a typical commercial or hospital environment.

Voltage dips, short interruptions and voltage variations on power supply input lines GB/T 17626.11	<5% UT for 0.5 cycle (i.e. >95% dip in UT) 40% UT for 5 cycles (i.e. 60% dip in UT) 70% UT for 25 cycles (i.e. 30% dip in UT) <5% UT for 5 seconds (i.e. >95% dip in UT)	Not applicable	Mains power quality should be that of a typical commercial or hospital environment. If the user requires uninterrupted operation during power interruptions, battery-powered operation is recommended.
Electrostatic Discharge (ESD) GB/T 17626.2	3 A/m	3 A/m	Power frequency magnetic fields should be at levels typical of those found in commercial or hospital environments.
Note: UT refers to the AC mains voltage prior to application of the test level.			

Table 3 – Guidance and Manufacturer’s Declaration – Electromagnetic Immunity (For Non-life-supporting Equipment)

This device is intended for use in the electromagnetic environment specified below. The purchaser or user should ensure that the device is used in such an environment.			
Immunity Test	IEC 60601 Test Level	Compliance Level	Electromagnetic Environment – Guidance
Conducted RF GB/T 17626.6	3 V (rms) 150 kHz to 80 MHz	Not applicable	Portable and mobile RF communication equipment should not be used at distances closer to any part of the device, including cables, than the recommended separation distance calculated from the equation applicable to the transmitter frequency: d = 1.2 √ P (for 80 MHz to 800 MHz) d = 2.3 √ P (for 800 MHz to 2.5 GHz) Where:P is the maximum rated output power of the transmitter in watts (W) according to the manufacturer;d is the recommended separation distance in meters (m). The field strengths from fixed RF transmitters, as determined by an electromagnetic site survey, should be lower than the compliance level in each frequency range. Interference may occur in the vicinity of equipment marked with the following symbol
Radiated RF GB/T 17626.3	3 V/m 8 0 MHz to 2.5 GHz	3 V/m	

Note 1: In the 80 MHz to 800 MHz frequency range, the higher frequency formula should be used. Note 2: The above guidelines may not apply in all situations, as electromagnetic propagation is also affected by building structures, objects, and human bodies due to absorption and reflection.
a. Fixed transmitters, such as base stations for radio (cellular/cordless) telephones, land mobile radios, amateur radios, AM/FM radio broadcasts, and TV broadcasts, cannot be precisely predicted in theory. To assess the electromagnetic environment due to fixed RF transmitters, an electromagnetic site survey should be considered. If the measured field strength in the location where the equipment is used exceeds the applicable RF compliance level above, the equipment should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as reorienting or relocating the device. b. In the frequency range 150 kHz to 80 MHz, the field strength should be less than 3 V/m.

Table 4 – Recommended Separation Distances Between Portable and Mobile RF Communication Equipment and This Device (For Non-Life-Support Equipment)

This device is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. Based on the maximum rated output power of the communication equipment, the purchaser or user can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF transmitters and this device, as recommended.			
Maximum Rated Output Power of Transmitter (W)	Corresponding Separation Distance at Different Frequencies (m)		
	150 kHz–80 MHz	80 MHz–800 MHz	800 MHz–2.5 GHz
0.01	0.12	0.12	0.23
0.1	0.38	0.38	0.73
1	1.2	1.2	2.3
10	3.8	3.8	7.3
100	12	12	23
For transmitter power levels not listed in the table above, the recommended separation distance (d) in meters (m) can be determined using the corresponding formula in the frequency column. Here, P is the maximum rated output power of the transmitter, in watts (W), as specified by the transmitter manufacturer. Note 1: In the range of 80 MHz to 800 MHz, the higher frequency formula should be used. Note 2: These guidelines may not be applicable in all situations, as electromagnetic propagation is influenced by absorption and reflection from buildings, objects, and the human body.			



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.

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

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.

FCC Radiation Exposure statement

The device has been evaluatec to meel general RF exposure requirement. The device can be used in portable exposure condition without restriction.