

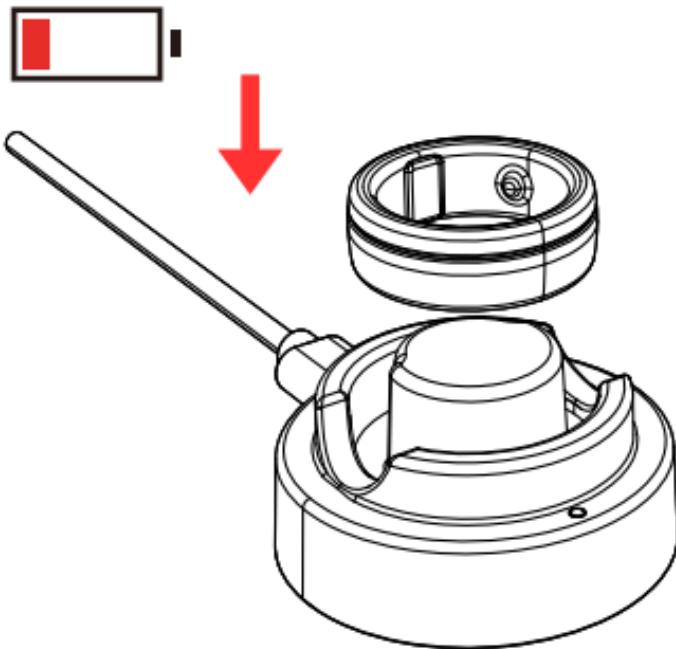


CardioRing

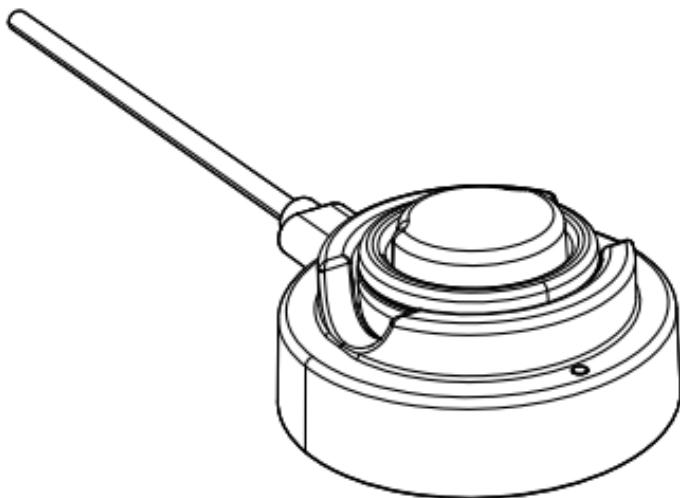


# User Manual

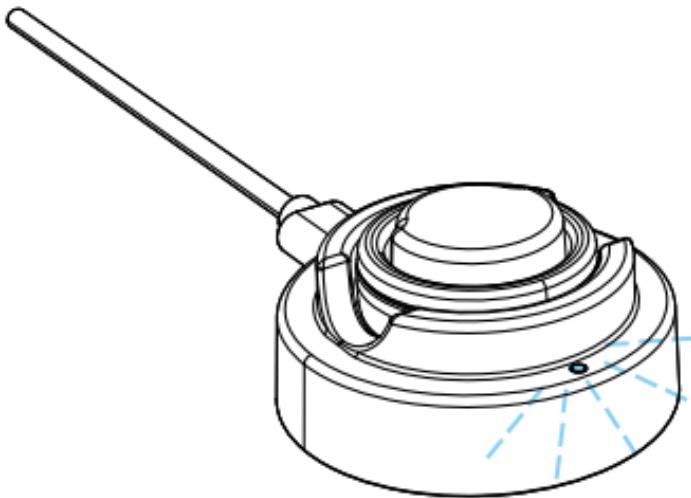
# Low battery



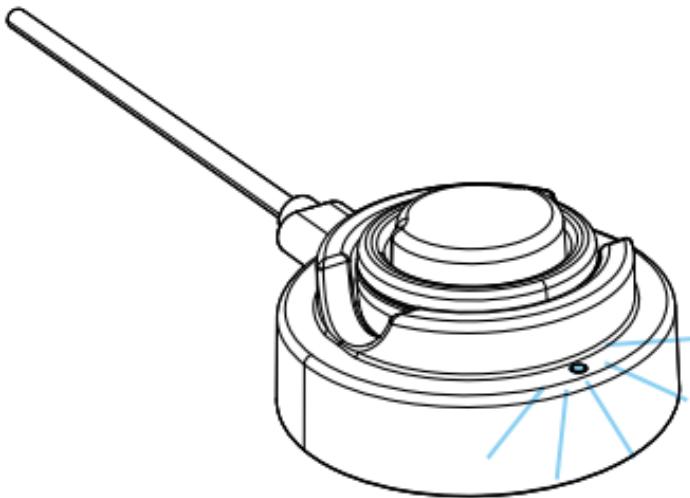
**Connect your Cardio Ring to  
the charging dock & charge  
it for at least 2 hours**



**Slowly pulsing white light  
indicates your Cardio Ring  
is charging**



**Solid white light indicates  
your Cardio Ring is fully  
charged**



# Download NexRing App



Download on the  
App Store

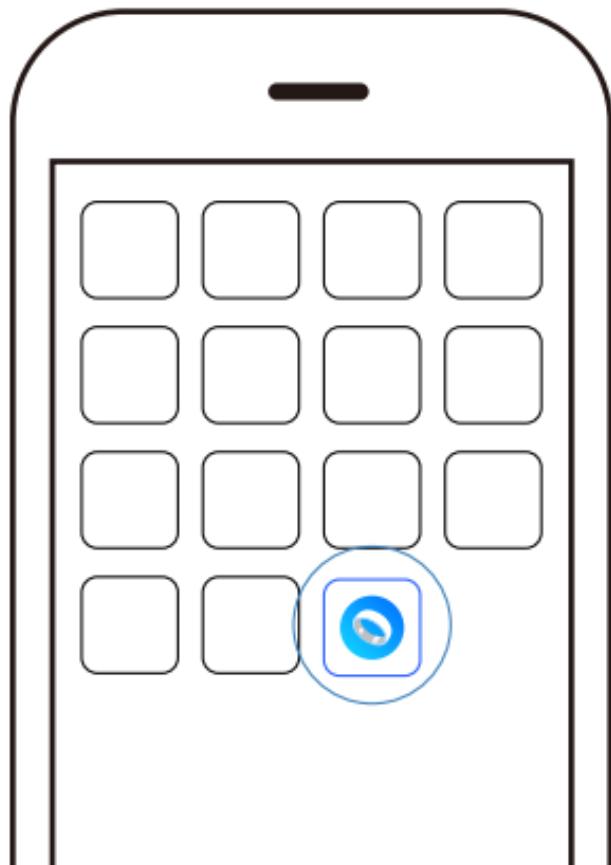


GET IT ON  
Google Play

# Search and install App



# Open NexRing App



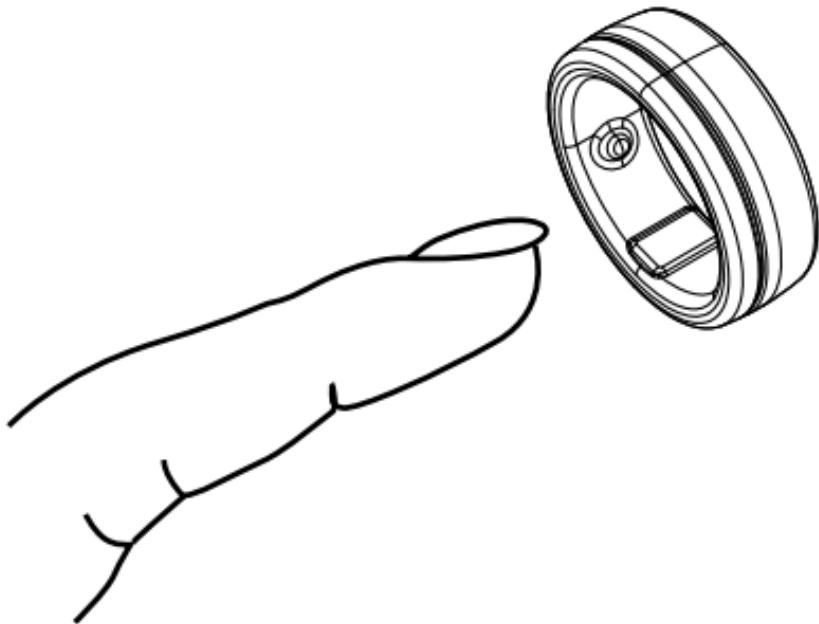
# Activate Ring



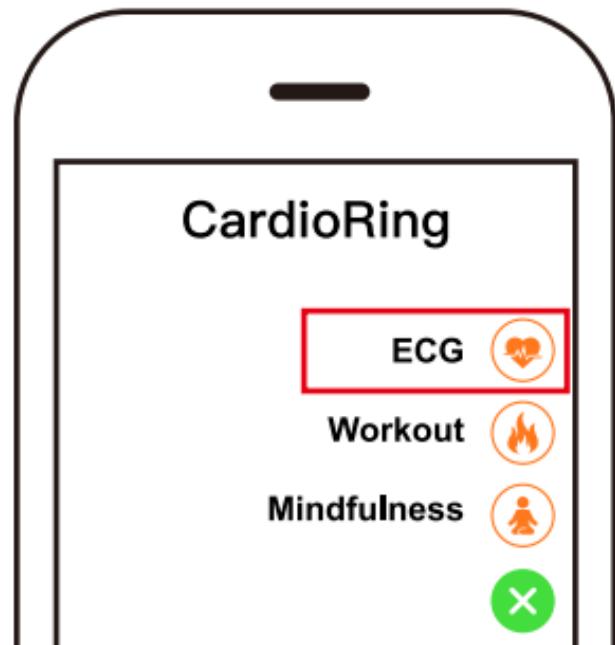
CardioRing

Please connect your CardioRing to  
the charging dock

**Wear the CardioRing and make sure the CardioRing fits the finger you selected in the NexRing App. To see which finger you selected, open the NexRing App, tap the "Settings" tab, then go to My Profile > Wearing Preferences.**



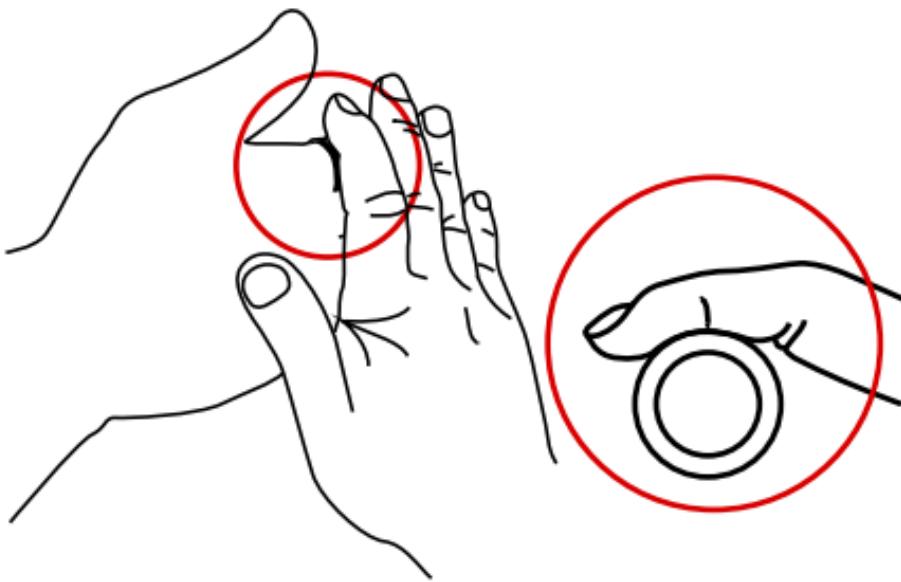
Open **NexRing App** and connect to **CardioRing**, tap the "Home" tab, click +, then tap "ECG" to enter ECG measurement menu. Tap the Start button to be ready for measurement.



**Place your arms flat on a table or in your lap. Gently wrap the ring with the first joint of the unworn finger.**

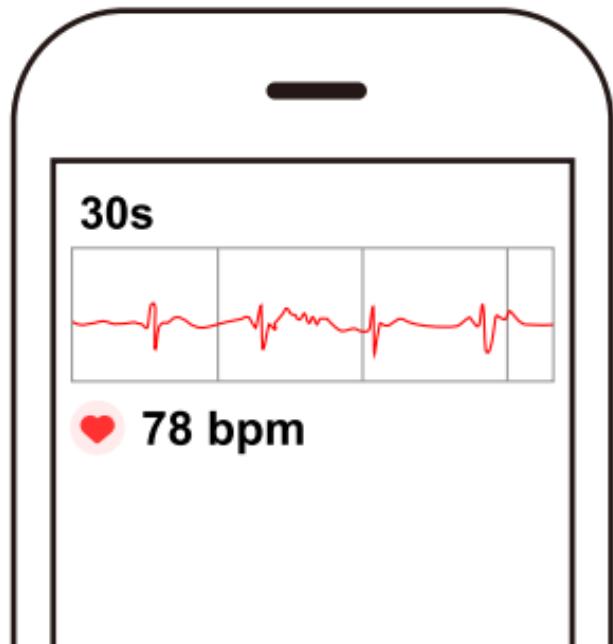
**\* Do not press the ring hard.**

**\* Wrap the ring as much as possible with your fingers.**

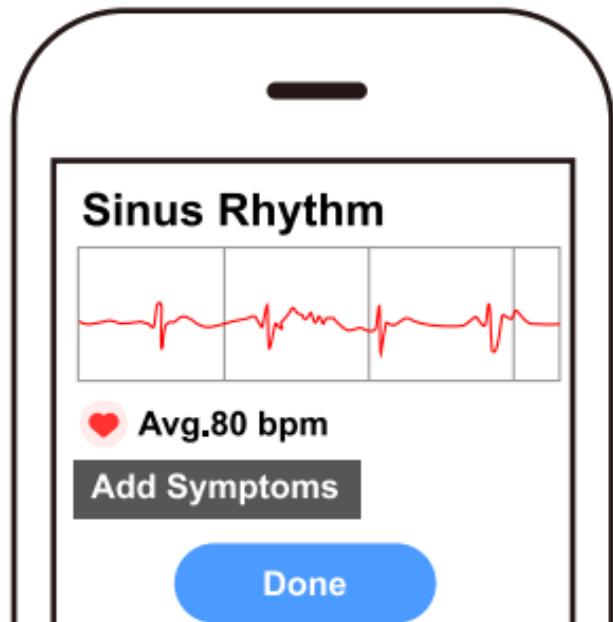


**Please maintain your posture while measuring. If ready, the measurement will automatically start.**

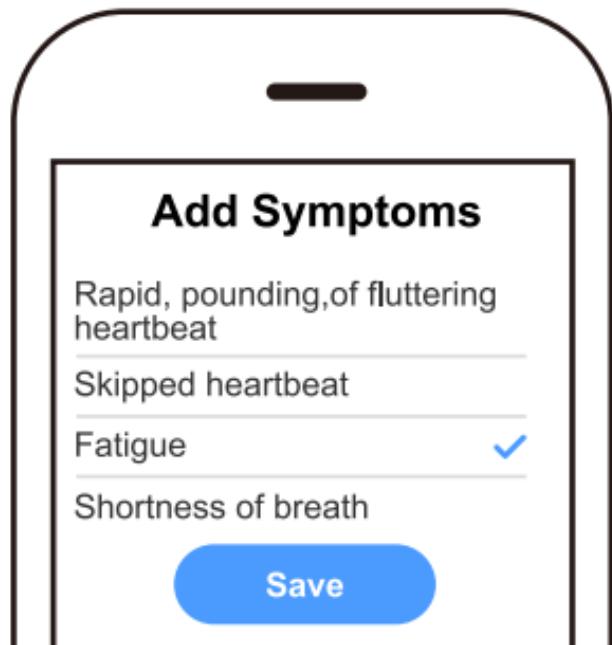
**\* Please be careful not to move or speak while measuring.**



**Wait a moment. The recording takes 30 seconds. At the end of the recording, you will receive a classification (e.g. sinus rhythm, atrial fibrillation, or others).**



You can tap Add Symptoms and choose your symptoms. Tap Save to note any symptoms.

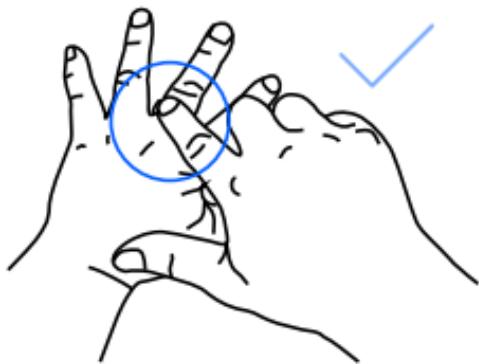
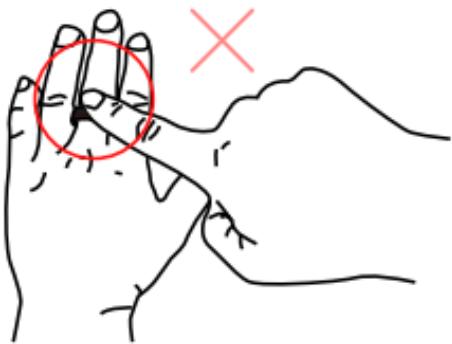


Finally, tap Done to save the ECG measurement record.



If ECG measurements taken multiple times are classified as poor recording, you can try the following method to measure again.

- \* Spread all fingers of the hand that is wearing the ring so that the fingers do not come into contact with the ring.
- \* The fingers of the other hand are placed on the ring and are not in contact with the hand wearing the ring.



Thank you for choosing Cardio Ring. We want you to get the most out of your experience. Therefore, please read this important information leaflet and the accompanying Quick Guide carefully before using your ring, mobile App and any other related services (Cardio Ring Services). Failure to follow the instructions below could result in product damage or malfunction, or even injury.

## **Support and Questions**

If you have any questions about getting started with or using your ring, mobile App and any other Cardio Ring Services, or you have any issues with your product, please refer to the Frequently Asked Questions (FAQs) at (<https://www.linktop.com>). If you can't find what you are looking for, send us an email to [service@linktop.com](mailto:service@linktop.com) .

## Safety Information

Please note that Cardio Ring Services are not intended to diagnose, treat, cure, or prevent any disease or medical condition. The information and guidance in the Cardio Ring Services are there for informational purposes only and cannot replace the services of health professionals or physicians. You should always consult a physician if you have any questions regarding any changes you intend to make to your sleep or activity based on information or guidance of the Cardio Ring Services, or regarding a medical condition. Never disregard professional medical advice or delay in seeking it because of something you have read on or through the Cardio Ring Services.

We are not responsible for any health problems that may result from information or guidance you learn about through the Cardio Ring Services. If you make any change to your sleep or activity based on the Cardio Ring Services, you agree that you do so fully at your own risk. It is important to be sensitive to your body's responses. For example, if you feel unexpected, repeated or long term pain, fatigue or discomfort due to having made changes to your sleep or activity, it is recommended that you consult a physician before continuing with such changes. The information and guidance in the Cardio Ring Services may be misleading if your physiological functions and responses differ significantly from population averages due to medical conditions or rare natural differences.

Please be cautious that the ring or any other Linktop product you are wearing does not get caught on fixed structures or heavy objects when moving yourself or moving said heavier objects.

**If you experience redness or skin irritation on your finger due to the ring or any other Linktop product, remove it immediately. If symptoms persist longer than 2-3 days of not using your Linktop product, please contact a dermatologist.**

**Our Product should not be placed in the mouth at any time. Cardio Ring Product is not a toy nor is it intended for use by children. Children should not be left unattended with this Product, as it may pose a choking hazard.**

### **Use, care and maintenance**

Finger size can vary depending on the time of the day, and sometimes it may be difficult to remove the ring from your finger. In case the ring gets stuck:

- Use cold water and gentle soap to wet your finger, and slowly twist the ring to remove it.
- Hold your hand up above your heart until the blood pressure gets lower, and then try the removal.

- In cases of emergency, cut the ring from the palm side of the finger, from its thinnest point with a ring cutter.

This prevents cutting the battery. The lithium - ion polymer battery should not have electrolyte flowing, but in case electrolyte comes in contact with your skin or eyes, flush it out with water and seek immediate medical attention.



Use soft cloth or hand wash with mild soap and water to clean the ring.

Cardio Ring can be worn in shower, when taking a bath or when swimming. It is even suitable for skin diving with snorkel.

Try to avoid wearing the ring when strength training, working with a shovel or other heavy tools, or carrying heavy objects made of metal, ceramics or stone. In addition, try to avoid wearing the ring next to other rings or objects which are made of metal, ceramics or stones, like diamond. The Cardio Ring may get scratches or it can scratch softer metal jewelry or other objects in close contact with the ring, like phone covers, made of e. g. gold, silver, aluminum. Also some ceramic phone covers may get scratches, if covered with softer coating.

Keep the ring away from children. Do not leave the ring exposed to heat, such as in a vehicle or in the sun. Do not puncture the ring or its battery.

The ring material is titanium. Like with all rings made of metals such as silver, gold or steel, be careful when handling batteries when you're wearing the ring. In some rare cases where both the cathode and the anode of a battery touch the ring, there is a risk of battery short circuit, similar to normal metal rings without electronics in them.

## **About Electrocardiograms**

An electrocardiogram (ECG or EKG) is a test that records the timing and strength of electrical signals that make the heart beat. By looking at an ECG, a doctor can gain insights about your heart rhythm and look for irregularities.

## Four Things to Remember

The app can check your heart rhythm for AFib and show your heart rate. There are some things to remember.

- It cannot detect a heart attack.

If you ever experience chest pain, pressure, tightness, or what you think is a heart attack, call emergency services immediately.

- It cannot detect blood clots or a stroke.
- It cannot detect other heart-related conditions.

These include high blood pressure, congestive heart failure, high cholesterol, or other forms of arrhythmia.

- If you are not feeling well you should talk to your doctor.

## Results You May See

### (1) Sinus Rhythm

A sinus rhythm result means the heart is beating in a uniform pattern. This happens when the upper and lower chambers of the heart are beating in sync. A sinus rhythm result only applies to that particular recording and doesn't mean your heart beats with a consistent pattern all the time.

### (2) Atrial Fibrillation (AFib)

An AFib result means the heart is beating in an irregular pattern. AFib is the most common form of serious arrhythmia. AFib occurs when the upper chambers of the heart beat out of sync with the lower chambers and this creates an irregular pattern.

If you receive an AFib result and have a heart rate over 100 beats per minute, you should talk to your doctor.

## How serious is AFib?

AFib is a manageable condition that if left untreated can cause blood to clot in the heart. If a clot is pumped out, it can lead to stroke, heart failure, or other medical complications. AFib is diagnosed in approximately 2% of people younger than 65 and about 9% of people 65 and older. It can be temporary or persistent but can be managed with a doctor's care and medication. People with AFib often live healthy, active lives.

### AFib Symptoms

Some people with AFib don't experience any symptoms. For those who do, common symptoms are:

- Rapid, pounding, or fluttering heartbeat
- Skipped heartbeat
- Fatigue
- Shortness of breath

- Chest tightness or pain
- Fainting
- Dizziness

### (3) Low or High Heart Rate

The heart is beating below 50 beats per minute or over 100 beats per minute (BPM).

The Cardio Ring app will check for AFib if your heart is beating between 50 and 150 beats per minute. A heart rate under 50 BPM or over 150 BPM affects the Cardio Ring app's ability to check for AFib and the recording is considered inconclusive.

#### **Heart Rate Under 50 BPM:**

The app can't check for AFib and the recording is classified as Low Heart Rate.

A heart rate can be low because of certain medications or if electrical signals are not properly conducted through the

heart. Training to be an elite athlete can also lead to a low heart rate.

### **Heart Rate Between 100 and 150 BPM:**

The app will check for AFib. If no AFib is detected, it will classify the recording as High Heart Rate.

### **Heart Rate Over 150 BPM:**

The app can't check for AFib and the recording is classified as High Heart Rate >150.

A high heart rate could be due to exercise, stress, nervousness, alcohol, dehydration, infection, or AFib.

### **(4) Inconclusive**

An inconclusive result means the recording can't be classified. This can happen for many reasons such as the presence of a pacemaker or an arrhythmia the app cannot recognize.

**There are factors that consistently cause an Inconclusive result.**

- You have a pacemaker or implantable cardioverter defibrillator (ICD).
- The recording may show signs of other arrhythmias or heart conditions that the app is not designed to recognize.
- Poor electrical signal in the recording. This can happen for a variety of reasons and a small percentage of people don't create enough signal to produce a good recording.

#### **(5) Poor Recording**

A poor recording can't be classified and can happen for many reasons such as not resting your hand on a table or your ring is too loose.

**If you get a Poor Recording result, there are a few things you can try in order to get a better recording.**

- Rest your hand on a table or in your lap while you take a recording. Try to relax and not move too much.
- Make sure your ring isn't loose on your finger. The sensors of your ring need to be touching your finger.
- Make sure your finger and your ring are clean and dry. Water and sweat can cause a poor recording.
- Make sure your ring is on the finger you selected in Settings.
- Move away from any electronics that are plugged into an outlet to avoid electrical interference.

**Note: These results are not a diagnosis. Do not change any medications or treatment without talking to your doctor.**

## Safety and Product Information

### Specifications

- **Outer surface materials** Titanium steel with PVD coating in Silver and Gold.
- **Inner surface materials** Non-allergenic, non-metallic seamless inner molding.
- **Memory capacity** 1 week.
- **Battery** rechargeable 15mAh(US7)-22mAh(US13) Lipo battery, non-replaceable.
- **Battery life** Up to 1 week, depending on the amount of sleep and activity.

Dispose of the ring and battery in accordance with applicable local laws and regulations. Special handling may be required.

- **Charging** charging with Cardio Ring wireless stand.
- **Charging time** 30-90 minutes.
- **Connectivity** Bluetooth Low Energy (BLE).
- **Ring firmware update ability** Automatic firmware updates via Cardio Ring app.
- **Cardio Ring app availability** App Store, Google Play Store.
- **Cardio Ring app compatibility** See Linktop.com
- **Privacy** Data encryption, secure pairing of the ring and the app.
- **Water resistant** To 50m/164ft.
- Endures drop of 1m/3.3ft or equivalent impact.
- **Operating temperature** -10-55 °C/14-131°F.
- **Charging temperature** 0-45°C/32-113°F (room temperature recommended).
- **Charger input connector and voltage** USB-C connection. USB nominal 5V.

Charger shall be supplied by a power source that shall meet with clause 2.5 of the standard for limited power supply.

Charger complies with EN / IEC 60950-1international safety standard for IT equipment.

### **Warranty Disclaimer**

Except for the limited warranty for the ring forth below, the ring and the Cardio Ring Services are provided by LINKTOP and its affiliates “As is.”

Neither Linktop partners, suppliers, or affiliates make any representations or warranties of any kind, express or implied, as to the operation of the Cardio Ring Services (Including the ring), its contents, or any information made available by or through the Cardio Ring Services. In addition, Linktop and its partners, suppliers and affiliates disclaim all warranties with respect to the Cardio Ring Services (Including the ring), express or implied, including but not limited to the implied warranties of merchantability, title, fitness for a particular purpose and non-infringement. Furthermore, Linktop does not warrant that use of the Cardio Ring Services will be uninterrupted, available at any time or from any particular location, secure or error-free, that defects will be corrected, or that the Cardio Ring Services (Including the ring) are free of viruses or other potentially harmful components.

Limited warranty for the ring. Linktop warrants to the original end user purchaser that the ring is free from defects in material and workmanship for one (1) year from the date of purchase.

If your local law in effect at the time of purchase requires a warranty period longer than one (1) year, this warranty shall be extended to the extent required by such law. Within the warranty period, Linktop shall repair or replace at no charge to you any components of the ring that fail the limited warranty provided. You shall be responsible for any related transportation charges. Replacement products may be new or refurbished at our discretion. This limited warranty does not apply to (i) normal wear and tear, including Scratches and dents; (ii) consumable parts included in ring such as batteries, unless product damage has occurred due to a defect in materials or workmanship;

(iii) damage resulting from your failure to use the ring in accordance with the instructions accompanying the ring or available at our website; (iv) damage resulting from an accident, flood, fire, misuse, or abuse; (v) damage resulting from service performed, or damage resulting from tampering or alterations to the ring, by anyone not authorized by Linktop; or (vi) use of the ring with any other application or software than the Cardio Ring mobile app.

Linktop retains the exclusive right to repair or replace the ring, or offer a full refund, at its sole discretion. Such remedy shall be your sole and exclusive remedy for any breach of warranty. Warranty repairs and replacements have a new warranty which is the longer of ninety (90) days or the balance of the original one-year warranty.

## Limitation of Liability

In no event will Linktop or any of its affiliates be liable for direct, indirect, incidental, punitive or consequential damages (Including without limitation those resulting from lost profits, lost data or business interruption) arising out of the use, inability to use or the results of use of the ring and the Cardio Ring Services, whether such damages are based on warranty, contract, tort or any other legal theory and whether or not Linktop has been advised of the possibility of such damages. The aggregate liability of Linktop, arising from or relating to the ring and Cardio Ring Services (Regardless of the form of action or claim, E.G. Contract, warranty, tort, strict liability, negligence, or any other legal theory) is limited to \$10. In some locations applicable law may not allow certain of the limitations described above, in which case such limitations will apply to the maximum extent allowed by such applicable law.

## Terms of Use

Your use of the Cardio Ring products and services is subject to our Terms of Use and Privacy Policy, available at Cardio Ring App or <https://www.linktop.com>. The Content and warranty Disclaimer and the Limitation of Liability set forth above are from our Terms of Use and are subject to change if we change our Terms of Use.

In order to satisfy the essential requirements of 2014/53/EU Directive, the product is compliant with the following standards:

In order to satisfy the essential requirements of 2014/53/EU Directive, the product is compliant with the following standards:

---

RF spectrum use	EN 300 328
EMC	EN 55032:2015 + A11:2020
	EN 55035:2017 + A11:2020
EMF	EN 62479:2010
Safety	EN IEC 62368-1:2020 + A11:2020

---



This product is compliant with Directive 2012/19/EU. Please dispose used electrical and electronic equipment (WEEE) according to national laws and regulations with electrical waste. It should not be mixed with general household waste.

## FCC regulatory information

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.

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.

## RF exposure safety

This product is a radio transmitter and receiver. It's designed not to exceed the emission limits for exposure to radio frequency (RF) energy set by the Ministry of Industry and Information Technology of China.

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

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.



CardioRing

Model: SR23

FCC ID: 2A2J3-SR23

Manufacturer: Xiamen Linktop Technology Co., Ltd.

Made in China

