

INTRODUCTION

They say time makes fools of us all, but that hasn't stopped Xiaomi from working around the clock on a totally redesigned Mi Watch. Does their newest timepiece earn its place on your wrist? Tick tock, only this teardown can tell.

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TOOLS:

- [T2 Torx Screwdriver](#) (1)
 - [Phillips #00 Screwdriver](#) (1)
 - [Tweezers](#) (1)
 - [Spudger](#) (1)
 - [iFixit Opening Picks \(Set of 6\)](#) (1)
 - [Mako Driver Kit](#) (1)
 - [Technician's Razor Set](#) (1)
 - [Heat Gun](#) (1)
 - [Deck of Cards](#) (1)
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Step 1 — Xiaomi Mi Watch 2021 Teardown



- We don't want to say we're killing time, but maybe you should look over these tech specs while we get the teardown table warmed up:
 - 1.39 inch (35 mm) circular AMOLED display with 454 x 454 resolution
 - 11.8 mm thickness at 32g
 - Wireless charging
 - Accelerometer, gyro, heart rate, barometer, compass, SpO2 (Blood Oxygen Testing)
 - Water resistant to 5 ATM
 - Bluetooth 5.0

Step 2



- [We gossiped a little](#) about last year's Chinese version of the Mi Watch, with its more-than-passing-resemblance to another watch made by that lifestyle company in Cupertino. With this new version, Xiaomi switched to an all-new, circular design.
- Side by side with its predecessor (left) and the Samsung Galaxy Watch (right)—we're not seeing major changes in terms of hardware components, but the new design direction is evident. This watch even grew another button, perhaps to keep up with Samsung.
- But putting the 42 mm version of the [Huawei Watch GT2](#) right alongside it, we notice an even stronger resemblance.
- Maybe there are only so many ways to shape something that straps to your wrist. Let's look inside.

Step 3



- Even though it's water resistant up to 50 meters, this Mi Watch opens easily with a Torx T2 bit from our [Mako Driver Kit](#) and a little bit of prying. It's nice to be reminded that "waterproof" does not have to mean "glued together."
- Our first look inside is also encouraging, as we spot some standard Phillips screws. It would've been even better if only one screwdriver was needed, but luckily we're well prepared.
- ⓘ So far, the internal build of the Mi Watch reminds us of the [Huawei Watch GT](#).

Step 4



- A little prying frees the battery easily. It's great to see this common repair got prioritized, with a simple modular connector—no soldering required.
- The battery is a 1.62 Wh (420 mAh at 3.85 V) Li-ion block which charges wirelessly.
 - ⓘ Xiaomi [claims](#) that this little cell powers the watch for *16 days straight*, or 50 hours during sports. Compare to: [Apple Watch Series 6](#) (44 mm): 1.17 Wh, [Samsung Galaxy Watch 3](#): 1.3 Wh, [Huawei Watch GT](#): 1.6 Wh
- In addition to the battery, the bottom part of the watch case bears a cable assembly with a tiny vibration motor, the heart rate and SpO2 sensor array, a barometric sensor, and a MEMS microphone.
 - ⓘ Removing the cable assembly requires cutting through some plastic rivets—not a reversible or repair-friendly process. Afterward, your only reassembly option is to glue the cable down. Better hope nothing on there breaks.
- Hiding behind the sensor board and peeking through the metal shield is a Texas Instruments AFE44130 Biosensor Analog Front End module.

Step 5



- Just two Phillips screws secure the main board—twist them out, and the board floats free as if by magic in this zero-gravity photo that we totally didn't stage.
 - ⓘ For any *actual* zero-gravity repairs, we recommend a [magnetic project mat](#). Can't have any loose screws drifting into the [space kitchen](#).
- After removing the mildly glued-in button cable, we find the following on the top side of the board:
 - [Ambiq Micro AMA3B MCU](#)
 - Bosch Sensortec [BMI270](#) 3-axis accelerometer/gyroscope

Step 6



- The bottom side features these chips:
 - STMicro [STM32L4R9ZI6P](#) microcontroller based on an Arm® Cortex®-M4
 - Paragon [PN26Q01AWSIUG](#) 1 Gbit NAND flash memory
 - AIROHA [AG3335MN](#) multi-GNSS chip featuring a MediaTek MT3333 SoC
 - Geomagnetic sensor (likely)
 - AKM Semiconductor [AK0991x](#) electronic compass
 - SGMicro SGM41562 Li-ion battery charger w/power path management

Step 7



- It's been a pretty good experience so far, but here's the part we've been avoiding. Smartwatches that open through the back usually come with very difficult screen repairs, and the Mi Watch is no exception.
- To free up the display assembly, we had to use a heat gun at about 300 °C (572 °F) and a razor blade, causing the screen some damage.
- ✦ We also gave [playing cards](#) (our softest cutting tool) a try, only for the display layers to separate. And then the actual screen shattered in our hands.
- Last thing to come off are the two side buttons, held in place by tiny metal washers (rings) on the inside of the watch body.
- ⓘ On the upside, you're probably more likely to see failure of the flex cable [from earlier](#) with its integrated buttons, rather than their physical extensions on the outside.

Step 8



- *Time heals all wounds*, but probably not our little Mi Watch—that's going to take some effort.
- This little wrist-flatterer's moment of teardown fame is nearly finished. As always, the final step is to compute the reparability score. For that, there's no time like the present.

Step 9 — Final Thoughts

REPAIRABILITY SCORE:



- The Xiaomi Mi Watch 2021 earns a **5 out of 10** on our repairability scale (10 is the easiest to repair):
 - The opening procedure is simple and glueless.
 - Connectors are modular and don't overly overlap.
 - The battery is easily accessible for repairs.
 - Opening requires a somewhat uncommon T2 Torx driver, but Phillips screws grace the inside.
- Many components are grouped together and can't be replaced individually.
- Display removal seems impractical and repairs will probably require replacing the watch casing.