

Apple Watch Ultra 2 - Tech Specs

Year introduced: 2024

Material and Finish

Titanium case, Grade 5

Natural

Black

Size and Weight

Height: 49mm

Width: 44mm

Depth: 14.4mm

410 by 502 pixels

1185 sq mm display area

Weight (natural): 61.4 grams

Weight (black): 61.8 grams

Fits 130–210mm wrists

Hardware and Buttons

Microphone

Speaker

Customizable Action button

Siren/Speaker

GPS antennas

Side button

Digital Crown

Depth gauge/water temperature sensor

Controls

Customizable Action button

Digital Crown with haptic feedback

Side button

Double tap gesture

Siri with on-device processing

Chip

S9 SiP with 64-bit dual-core processor

4-core Neural Engine

64GB capacity

Sensors

Electrical heart sensor

Third-generation optical heart sensor

Temperature sensor¹

Depth gauge $\pm 1\text{m}$ accuracy

Water temperature sensor

Compass

Always-on altimeter

High-g accelerometer

High dynamic range gyroscope

Ambient light sensor

Health and Wellness

ECG app²

Cycle Tracking app with retrospective ovulation estimates³

Heart Rate app

High and low heart rate notifications

Irregular rhythm notifications⁴

Medications app

Mindfulness app with state of mind tracking

Noise app

Sleep app including sleep stages

Sleep apnea notifications⁵

Display

Always-On Retina LTPO2 OLED display

Flat sapphire crystal display

Up to 3000 nits maximum brightness

1 nit minimum brightness

326 pixels per inch

Night Mode using Modular Ultra or Wayfinder watch face

Audio

Three-microphone array with beamforming and wind noise mitigation

Dual speakers

Media playback

Power and Battery Life

Multiday battery life, up to 36 hours of normal use⁶

Up to 72 hours in Low Power Mode⁶

Built-in rechargeable lithium-ion battery

Fast-charge capable⁷

Up to 80% charge in about 1 hour⁷

Learn more about Power and Battery Life

Operating System
watchOS

watchOS is the world's most advanced wearable operating system, with apps and features designed to keep you active, healthy, safe, and connected.

Learn more about watchOS

Workouts and Activity
Running

Custom workouts

Customizable Workout Views

Training load

Heart Rate Zones

Race Route

Pacer

Precision Start using Action button

Stride length, ground contact time, and vertical oscillation

Automatic track detection

Multisport workout

Hiking

Compass with bearing, incline, elevation, and coordinates

Custom waypoints

Automatically generated waypoints to cellular connectivity

Backtrack GPS data

Offline maps with custom route creation

Elevation alerts

Topographic maps for thousands of national and regional parks (U.S. only)

Hundreds of curated hikes across all 63 U.S. national parks

Cycling

Average speed, elevation gained, and distance

Connection to cycling accessories via Bluetooth

Functional Threshold Power

Power Zones

Cadence

Live Activity on iPhone

Swimming

Custom workout for Pool Swim

Splits and auto sets

SWOLF score

Stroke type tracking

Automatic stroke detection

Kickboard detection

Average pace, total distance, and laps

Diving

Recreational dive to 40m

Dive computer app (available on the App Store)⁸

Automatic launch at 1m

Current and maximum depth duration

GPS entry and exit points

Depth gauge

Water temperature sensor

More Workouts

Skiing

Snowboarding

Outdoor Rowing

Paddling

Golf

Walk

Elliptical

Rower

Stair Stepper

HIIT

Yoga

Functional Strength Training

Dance

Cooldown

Core Training

Pilates

Tai Chi

Wheelchair

Kickboxing

Multisport

and more

Safety

Emergency SOS⁹

International emergency calling¹⁰

Siren

Crash Detection⁹

Fall Detection

Last Emergency Call Availability Waypoint

Noise Monitoring

Backtrack

Durability

Water resistance 100m under ISO standard 22810:2010¹¹

Dust resistance IP6X under IEC 60529¹²

EN13319 recreational scuba diving to 40m (± 1 m accuracy)

Tested to MIL-STD 810H against subsections for altitude, high temperature, low temperature, temperature shock, immersion, freeze with thaw, ice and freezing rain, and shock and vibration

Connectivity

LTE and UMTS¹³

L1+L5 Precision dual-frequency GPS (GPS, GLONASS, Galileo, QZSS, and BeiDou)

Wi-Fi 4 (802.11n)

Bluetooth 5.3

Second-generation Ultra Wideband chip¹⁴

Apple Pay

GymKit

Support for Apple Watch For Your Kids¹⁵

International roaming¹⁶

Accessibility

Built-in accessibility features supporting vision, mobility, hearing, and cognitive disabilities.

[Learn more about Accessibility](#)

Features include:

VoiceOver

Zoom

On/Off Labels

Reduce Transparency

Increase Contrast

Color Filters

Text Size

Bold Text

Reduce Motion

Hourly Chimes

AssistiveTouch

Button Click Speed

Touch Accommodations

Auto-Answer Calls

Type to Siri

RTT Support

Audio Volume Balance

Audio Transcription

Live Speech

Accessibility Shortcut

Mono Audio

Taptic Time

Personal Voice

Environmental Requirements

On-wrist operating temperature: -4° to 130° F (-20° to 55° C)

Operating temperature: 32° to 95° F (0° to 35° C)

Nonoperating storage temperature: -4° to 113° F (-20° to 45° C)

Dive operating temperature: 32° to 104° F (0° to 40° C)

Relative humidity: 5% to 90% noncondensing

Operating altitude: -1600 feet to $29,500$ feet (-500m to 9000m)

Apple Watch Ultra 2 and the Environment

Apple Watch Ultra 2 paired with Alpine Loop, Trail Loop, or Titanium Milanese Loop is designed to reduce environmental impact:¹⁷

See the Apple Watch Ultra 2 Product Environmental Report (PDF)

Progress toward Apple 2030

Apple Watch Ultra 2 paired with Alpine Loop, Trail Loop, or Titanium Milanese Loop is one of Apple's first carbon neutral products:

30% recycled or renewable content¹⁸

100% of manufacturing electricity sourced from clean electricity¹⁹

50% or more shipped without airplanes²⁰

81% emissions reduction against baseline²¹

12 kg CO₂e or fewer total remaining emissions covered by high-quality carbon credits²²

See Apple's commitment

Materials

Carbon neutral Apple Watch Ultra 2 paired with Alpine Loop or Trail Loop has 30% recycled content, including:

95% recycled titanium in the case

100% recycled cobalt in the battery²³

100% recycled gold in the plating of multiple printed circuit boards

100% recycled tin in the solder of multiple printed circuit boards

100% recycled tungsten and copper wire in the Taptic Engine

100% recycled rare earth elements in all magnets

100% recycled copper foil in the main logic board

20% recycled plastic from water bottles in the antenna line

100% fiber-based packaging²⁴

38% recycled content in fiber packaging

Energy

100% of manufacturing electricity for Apple Watch Ultra 2 and Alpine Loop or Trail Loop is sourced from clean electricity

100% of expected customer energy use matched with clean electricity²⁵

Meets California Energy Commission's energy efficiency standards for battery charger systems²⁶

Waste

No established final assembly sites generate waste sent to landfill as part of Apple's Zero Waste Program

Smarter chemistry²⁷

Arsenic-free display glass

Mercury-, BFR-, and PVC-free

Meets European REACH regulation on nickel

Compatibility

iPhone Xs or later, including iPhone SE (2nd generation or later), with iOS 18 or later

In the Box

Apple Watch Ultra 2

Band

Apple Watch Magnetic Fast Charger to USB-C Cable (1m)

The temperature sensing feature is not intended for medical use.

The ECG app is available on Apple Watch Series 4 and later (excluding Apple Watch SE) and can generate an ECG similar to a single-lead electrocardiogram. Intended for use by people 22 years old and over.

The Cycle Tracking app should not be used for birth control or to diagnose a health condition.

Irregular rhythm notification requires the latest version of watchOS and iOS. It is not intended for use by people under 22 years old or those who have been previously diagnosed with atrial fibrillation (AFib).

The Sleep Apnea Notification Feature is available on Apple Watch Series 9 and later and Ultra 2. It is intended to detect signs of moderate to severe sleep apnea for people 18 years old or older without a diagnosis of sleep apnea.

Multi-day battery life is based on the following use: 600 time checks, 180 notifications, 30 minutes of app use, and a 60-minute workout with music playback from Apple Watch via Bluetooth, over the course of 36 hours; Apple Watch Ultra 2 (GPS + Cellular) usage includes a total of 8 hours of LTE connection and 28 hours of connection to iPhone via Bluetooth over the course of 36 hours. Testing conducted by Apple in August 2024 using preproduction Apple Watch Ultra 2 (GPS + Cellular) paired with an iPhone; all devices tested with prerelease software. Battery life varies by use, configuration, cellular network, signal strength, and many other factors; actual results will vary.

Charge times are from 0–80% and 0–100% using the included Apple Watch Magnetic Fast Charging USB-C Cable. Testing conducted by Apple in August 2023 using preproduction Apple Watch Ultra 2 (GPS + Cellular) paired with an iPhone; all devices tested with prerelease software, Apple Watch Magnetic Fast Charging USB-C Cable (Model A2515), and Apple 20W USB-C Power Adapter (Model A2305). Charge time varies with region, settings, and environmental factors; actual results will vary.

A subscription is required for Oceanic+. Available on the App Store. Always follow diving protocols and dive with a companion and have a secondary device.

Emergency SOS requires a cellular connection or Wi-Fi calling with an internet connection from your Apple Watch or nearby iPhone.

Requires Apple Watch Series 7, SE, Ultra, or later. For a list of supported countries and regions, see apple.com/watchos/feature-availability.

Apple Watch Ultra 2 has a water resistance rating of 100 meters under ISO standard 22810:2010. It may be used for recreational scuba diving (with compatible third-party app from the App Store) to 40 meters and high-speed water sports. Apple Watch Ultra 2 should not be used for diving below 40 meters. Water resistance is not a permanent condition and can diminish over time. For additional information see support.apple.com/en-us/109522.

Apple Watch Ultra 2 is rated IP6X dust resistant.

Wireless service plan required for cellular service. Contact your service provider for more details. Connection may vary based on network availability. Check apple.com/watch/cellular for participating wireless carriers and eligibility. See support.apple.com/HT207578 for additional setup instructions.

Ultra Wideband availability varies by region.

Not all features will be available if the Apple Watch is set up through Apple Watch For Your Kids. Wireless service plan required for cellular service. Contact your service provider for more details. Check apple.com/watch/cellular for participating wireless carriers and eligibility.

International roaming coverage is determined by your carrier. Please check with your carrier for details. For a list of supported carriers, see apple.com/watch/cellular.

Data accurate as of product launch. Product statements are based on U.S. configuration of Apple Watch Ultra 2 paired with Alpine Loop.

Product recycled or renewable content is the mass of certified recycled material relative to the overall mass of the device, not including packaging or in-box accessories.

Our manufacturing electricity is sourced from clean electricity, including a mix of supplier and Apple clean energy projects.

50% of all carbon neutral products by weight are planned, as of product launch, to be shipped via non-air modes of transportation over the lifetime of the products.

Carbon reductions are calculated against a baseline scenario: 1) No use of clean electricity for manufacturing or product use, beyond what is already available on the latest modeled grid (based on regional emissions factors). 2) Apple's carbon intensity of key materials as of 2015 (our baseline year for our 2030 product carbon neutrality goal). Carbon intensity of materials reflects use of recycled content and production technology. 3) Apple's average mix of transportation modes (air, rail, ocean, ground) by product line across three years (fiscal years 2017 to 2019) to best capture the baseline transportation emissions of our products.

For more information about our use of carbon credits, please see the Product Environmental Report.

All cobalt claims are on a mass balance allocation.

Based on retail packaging as shipped by Apple. Breakdown of U.S. retail packaging by weight. Adhesives, inks, and coatings are excluded from our calculations of plastic content and packaging weight.

Apple is matching 100% of expected electricity consumption only for carbon neutral aluminum Apple Watch Series 10, Apple Watch SE, and Apple Watch Ultra 2 combinations.

Apple Watch Ultra 2 meets California Energy Commission's Energy Efficiency Standards for Small Battery Charger Systems as outlined in the California Code of Regulations.

Apple's Regulated Substances Specification describes Apple's restrictions on the use of certain chemical substances in materials in Apple products, accessories, manufacturing processes, and packaging used for shipping products to Apple's end-customers. Restrictions are derived from international laws or directives, regulatory agencies, eco-label requirements, environmental standards, and Apple policies. Every Apple product is free of PVC and phthalates except for AC

power cords in India, Thailand (for two-prong AC power cords), and South Korea, where we continue to seek government approval for our PVC and phthalates replacement. Apple products comply with the European Union Directive 2011/65/EU and its amendments, including exemptions for the use of lead such as high-temperature solder. Apple is working to phase out the use of these exempted substances for new products where technically possible.

The ability to measure blood oxygen is no longer available on Apple Watch units sold by Apple in the United States beginning January 18, 2024. These are indicated with part numbers ending in LW/A. Learn how to identify your Apple Watch.

Apple Watch Ultra 2, Apple Watch Series 10, and Apple Watch SE require iPhone Xs or later with iOS 18 or later.