

## **Ultra-Wideband - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts 2019 - 2029**

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### **Report description:**

The Ultra-Wideband Market size is expected to grow from USD 1.82 billion in 2024 to USD 4.05 billion by 2029, registering a CAGR of 17.37% during the forecast period (2024-2029). The increasing popularity and penetration of consumer electronic devices, such as mobile phones and smartphones, drive the market's growth. The ongoing advancements in new applications of UWB technology in wireless sensor networks directly impact the market's growth.

#### Key Highlights

- The demand 3>
- The demand for the Industrial Internet of Things (IIoT), which is increasing, is a big reason why the ultra-wideband market is growing. IIoT uses smart sensors to improve manufacturing and other industrial applications. Reducing labor and enabling industries to automate processes increases the efficiency of industrial operations. The demand for UWB technology in the real-time location system (RTLS) increased significantly due to its various applications.
- Increasing urbanization, modernization, and globalization are driving the market's growth. Growing industrial infrastructure, technological advancements to improve the operation of semiconductor tools, and increasing digitization in the healthcare and retail sectors across the world are other factors driving the market's growth. New applications of UWB technology are also expected to boost the market's growth.
- Because UWB technology is more accurate than Wi-Fi and RFID, many industries that use RTLS have switched from Wi-Fi and RFID to UWB technology to increase efficiency, shorten lead times, and lower costs. These things also boosted the demand for ultra-wideband technology, driving the market over the next few years.
- The UWB market is getting stiff competition from substitute products such as Bluetooth, GPS, and Wi-Fi. UWB is better than Bluetooth and Wi-Fi in many ways, such as high security, low power, high bandwidth, two-way communication, etc., making it useful for many applications. However, UWB may be used less by end-user industries because it is more expensive than

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alternatives.

-Ultra-wideband is a wireless technology that can measure a device's location to within a few centimeters inside and outside. This makes it possible to track a device's position and distance in real-time with more accuracy than ever before. Applications for COVID-19 contact tracing and social distancing were made in many different countries to stop the pandemic from spreading further. This created an opportunity for UWB-based devices during the pandemic because of their accuracy, making them a good fit for these apps.

## Ultra Wideband (UWB) Market Trends

### Consumer Electronics to Hold Significant Market Share

- Ultra-wideband (UWB) technology has been used in a lot of consumer electronics in the past few years because it can send and receive high-speed data wirelessly. Ultra-wideband technology is used a lot in Apple, Samsung, and Google Pixel high-end smartphones, some high-end laptops (Lenovo), speakers (HomePod Mini), and wearable devices. It is also being used more and more in smart home applications, which gives the UWB market in consumer electronics a lot of room to grow in the next few years.

- In the past few years, UWB technology has become more popular in smartphones. In March 2023, Samsung launched the Exynos Connect U100 chip for UWB capabilities. The new Samsung chip combines flash memory, radio frequency, a baseband, and power management technology onto a single chip, making it suitable for compact devices, like the next generation of the Galaxy SmartTag+. The chip also has an onboard scrambled timestamp sequence (STS) function, a physical cryptographic technique allowing device-level encryption for the time stamps of data packets.

- UWB technology is also being marketed as a way to track personal items for different consumer applications. Wallets, keys, and other personal items with a UWB tag can be found with a smartphone that has an ultra-wideband chip built in. UWB tags provide highly accurate, directional, and low-latency positioning.

- Smartphones are thought to have the largest share of shipments because they are so popular in places like China, India, the United States, and other places. Even though not all smartphones have UWB technology, many companies, including Google, Samsung, and Xiaomi, have released products with UWB technology since the iPhone 11 came out in September 2019.

- For instance, in June 2023, NOVELDA unveiled the world's lowest-power ultra-wideband (UWB) radar sensor. This radar is designed to operate on batteries with an astonishingly low power consumption below 100 microwatts. The final product will launch in mid-2024. NOVELDA will also demonstrate its groundbreaking NOVELDA UWB Proximity Sensor and NOVELDA UWB Occupancy Sensor at Booth 709. Since there are a lot of sales of UWB-enabled smartphones, the shipments are thought to be higher than for IoT devices.

In the IoT, devices such as air tags, airpods, and those in the smart home market are considered.

### Asia-Pacific is Expected to Witness Fastest Growth

- In the Asia-Pacific region, there are a lot of developing economies, like China, India, Taiwan, Japan, Vietnam, South Korea, and others. The region has been witnessing rapid industrial growth in developing countries. According to the GSMA, many Asia-Pacific countries have developed plans to assist Industry 4.0 in their marketplaces. Additionally, manufacturing and healthcare are the top sectors expected to immediately experience the benefits of Industry 4.0.

- Several local businesses have made low-power UWB wireless transceiver ICs that allow a new class of short-range wireless connectivity applications, such as IoT sensors that don't need batteries. UWB wireless transceivers offer continuous, rich data

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streaming as well as precise range and location with orders of magnitude more energy efficiency, latency, and throughput than Bluetooth Low Energy or ZigBee. This is because UWB technology lets wireless devices like sensors work without batteries and dramatically increases the battery life of electronic gadgets when combined with energy-harvesting technologies. This is why UWB technology is becoming more popular in the APAC region, where companies are putting an emphasis on energy-saving strategies.

- As the number of connected cars and electric vehicles on the market grows, regional UWB technology solution providers will have a chance to do business. Companies are partnering to develop UWB-enabled automobile products, which drive the APAC market. For instance, in July 2022, NXP Semiconductors and Taiwan's Hon Hai Technology Grove signed a memorandum of understanding to build platforms for a new generation of smart, connected automobiles that feature the NXP S32 domain embedded with UWB technology.
- Due to the growing need for UWB technologies in IoT devices, the use of IoT in the manufacturing and auto industries is creating an opportunity for the market. Also, Taiwan and China are important places for making chips, and India's mission to make chips would help the market for UWB technology chips in the region.

## Ultra Wideband (UWB) Industry Overview

The market for Ultra-Wideband is exceptionally competitive, mainly due to the presence of various critical vendors in the market operating in both international and domestic markets. The market appears to be moderately concentrated, with the significant players adopting strategies such as mergers, acquisitions, and product innovation to widen their product portfolio and extend their geographic reach. Some vital players in the market are Texas Instruments, DecaWave Limited, and NXP Semiconductors, among others.

In April 2023, Link Labs launched Ultra, a new asset-tracking product that combines UWB with their patented Xtreme Low Energy (XLE) technology to provide greater precision for indoor location tracking at the exact low cost. Ultra has achieved location accuracy of up to 30 centimeters, enabling indoor and on-site use cases requiring more granular precision. With this level of accuracy, manufacturing operations can effectively distinguish between boarding workstations for applications such as WIP and tool tracking.

In July 2022, Humatics set up the HRNS on a single test vehicle and 1.5 km of the Hitachi Rail test track in Naples, Italy, to evaluate the HRNS's position and speed performance compared to real-world sensors and Hitachi Rail's CBTC odometry criteria. Additionally, the HRNS was connected to a Communication-Based Train Control (CBTC) simulator, and various tests were run, which included Ultra-Wideband (UWB) and sensors like Inertial Measurement Units (IMU) and GNSS technology provided by Humatics.

In July 2022, NXP collaborated with ING and Samsung to test the first peer-to-peer payment application based on UWB. The pilot intends to improve the usability and seamlessness of peer-to-peer payments by leveraging ING's payment expertise and NXP's ultra-wideband technology.

### Additional Benefits:

- The market estimate (ME) sheet in Excel format
- 3 months of analyst support

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