

# **Ultra-Wideband (UWB) Technology-Based Vehicle Access Control Market - A Global and Regional Analysis: Focus on Application Type, Product Type, and Country-Level Analysis - Analysis and Forecast, 2022-2031**

<https://marketpublishers.com/r/UE1EDFC05A27EN.html>

Date: March 2023

Pages: 191

Price: US\$ 5,500.00 (Single User License)

ID: UE1EDFC05A27EN

## **Abstracts**

Global Ultra-Wideband Technology-Based Vehicle Access Control Market: Industry Overview

The global ultra-wideband technology-based vehicle access control market was valued at \$92.6 million in 2022, which is expected to grow at a CAGR of 17.09% and reach \$383.1 million by 2031. The recent surge in the adoption of ultra-wideband technology across developed economies and their growing global awareness is shifting automakers' focus to equip their upcoming models with ultra-wideband technology-based vehicle access. For example, well-known automakers, including BMW, General Motors, Mercedes, and others, have already begun to offer ultra-wideband technology-based vehicle access in recent years. This shift in original equipment manufacturers' (OEMs) focus toward developing ultra-wideband technology-based vehicle access control is expected to drive market growth in the coming years.

Market Lifecycle Stage

Ultra-wideband (UWB) technology can be used for vehicle access control, particularly for vehicle keyless entry systems. UWB technology operates by transmitting short pulses of radio waves over various frequencies. By measuring the time it takes for these pulses to travel between devices, UWB technology can determine the distance between them with very high accuracy. When the user approaches the vehicle with the UWB-enabled key fob, the UWB system can detect the distance between the fob and the

vehicle and automatically unlock the doors.

## Impact of Global Ultra-Wideband Technology-Based Vehicle Access Control Market

The global ultra-wideband technology-based vehicle access control market is expected to significantly impact the automotive industry and the broader economy. Ultra-wideband technology-based vehicle access control systems can be a key differentiator for automotive manufacturers looking to provide a more secure and convenient user experience. As such, we expect to see increased investment in UWB technology from automotive manufacturers and greater integration of UWB systems into vehicles. Ultra-wideband technology can provide a higher level of security than traditional keyless entry systems, as UWB signals are difficult to intercept or jam. As such, adopting UWB-based vehicle access control systems may help reduce the incidence of vehicle theft. For instance, in January 2021, BMW Digital Key Plus with ultra-wideband technology would be available for the BMW iX. BMW Digital Key Plus provides customers with a simple and secure keyless entry system.

### Market Segmentation:

#### Segmentation 1: by Vehicle Type

Passenger Vehicles

Light Commercial Vehicles

Heavy Commercial Vehicles

Passenger vehicles are currently credited with the highest share of the demand for ultra-wideband technology. Some key factors that have enabled the technical acceptance of these vehicles are high demand, higher registration of passenger cars, and less operating difficulty as compared to commercial vehicles. The need for passenger vehicles is growing due to the demand for heavy and luxury vehicles and an increase in the number of cars driven by diesel engines. Additionally, increased population, urbanization, and disposable income have significantly increased passenger vehicle production.

#### Segmentation 2: by Authentication Type

Biometric

Non-Biometric

The biometric segment accounts for the largest market. The combination of biometric and UWB technologies for vehicle access can provide a highly secure and convenient solution for keyless entry systems in vehicles. Biometric technology can verify the user's identity, while UWB technology can ensure that the user is physically present in the correct location. If the user's identity is verified and their location is confirmed, the vehicle's access control system could automatically unlock the doors, allowing the user to enter the vehicle. Overall, combining biometric and UWB technologies for vehicle access control can provide a seamless and secure user experience while offering enhanced protection against vehicle theft and unauthorized access.

### Segmentation 3: by Component Type

Software

Hardware

Smart Devices

Key Fob

In-Vehicle Access Chip Set

The hardware segment accounts for the largest market. Ultra-wideband (UWB) technology-based vehicle access systems use short-range radio waves to communicate between the vehicle and the access device. These systems require specific hardware components to operate. The UWB chip is the heart of the UWB system and is responsible for transmitting and receiving data; the control module manages the UWB system's functions and is usually located inside the vehicle. The access device is used to communicate with the UWB system and is generally located outside the vehicle.

### Segmentation 4: by Frequency Range

3.1 GHz to 6 GHz

## 6 GHz to 10.6 GHz

The 6 GHz to 10.6 GHz segment accounts for the largest market. The frequency range of 6 GHz to 10.6 GHz is one of the frequency bands allocated for ultra-wideband (UWB) communications. Using a wide range of frequencies allows UWB to provide high data rates and low power consumption, making it ideal for wireless personal area networks, radar, and location-tracking applications. UWB in the 6 GHz to 10.6 GHz frequency range is used in various applications, including high-speed data transfer, radar imaging, and precision location tracking. UWB-based systems in this frequency range can provide accurate location information with sub-centimeter precision, making them suitable for asset tracking, industrial automation, automotive, and robotics applications.

### Segmentation 5: by Positioning Technique

Time Difference of Arrival (TDoA)

Two-Way Ranging (TWR)

The TWR segment accounts for the largest market. Two-way ranging is used in ultra-wideband (UWB) technology-based vehicle access systems to determine the distance between the vehicle and the access device. This technique uses time-of-flight measurements to calculate the distance based on the time it takes for a signal to travel from the vehicle to the access device and back again. Two-way ranging in UWB technology-based vehicle access systems has several advantages. It provides accurate distance measurement with sub-centimeter precision, which is critical for ensuring secure and reliable vehicle access.

### Segmentation 6: by Region

North America

Europe

U.K.

China

Asia-Pacific and Japan

Rest-of-the-World

North America currently holds the largest share of the global ultra-wideband technology-based vehicle access control market. The North America region comprises the U.S., Canada, and Mexico. The presence of technology providers, minimal miscalculations, product customization, and reduced production timescale are the primary driving factors of the North America ultra-wideband technology-based vehicle access control market. The U.S. government's policies for research and development activities regarding ultra-wideband technology also hasten the region's adoption of ultra-wideband technology.

#### Recent Developments in the Global Ultra-Wideband Technology-Based Vehicle Access Control Market

In June 2022, CEVA, Inc. announced that the RW-UWB-CCC MAC software package had been added to its RivieraWaves ultra-wideband (UWB) IP to support the Car Connectivity Consortium® (CCC) Digital Key 3.0 specification.

In June 2021, NXP Semiconductors announced the availability of beta ultra-wideband (UWB) development tools from its NXP Trimention portfolio that interoperate with the U1 chip in supported Apple products.

In January 2022, Qorvo, Inc. introduced the first wideband Wi-Fi front-end module (FEM) for customer premises equipment, covering the 5.1 GHz to 7.1 GHz bands (CPE). Qorvo's new wideband QPF4730 can support full-frequency Wi-Fi 6 and Wi-Fi 6E enterprise solutions.

#### Demand – Drivers and Limitations

The following are the drivers of the global ultra-wideband technology-based vehicle access control market:

Increasing Adoption of Real-Time Location System (RTLS) Applications in Vehicle

## Growing Adoption of the Internet of Things (IoT) in Automotive Applications

The following are the challenges for the global ultra-wideband technology-based vehicle access control market:

Risk of Cyber Attacks

Spectrum Expansion for New Applications

How can this report add value to end users?

**Product/Innovation Strategy:** The product segment helps the readers understand the different types of ultra-wideband technology. Furthermore, the study provides the readers with a detailed understanding of the global ultra-wideband technology-based vehicle access control market based on application and product.

**Growth/Marketing Strategy:** To improve the capabilities of their product offerings, players in the global ultra-wideband technology-based vehicle access control market are developing unique products. The readers will be able to comprehend the revenue-generating tactics used by players in the global ultra-wideband technology-based vehicle access control market by looking at the growth/marketing strategies. Other market participants' tactics, such as go-to-market plans, will also assist readers in making strategic judgments.

**Competitive Strategy:** Players in the global ultra-wideband technology-based vehicle access control market analyzed and profiled in the study include vehicle manufacturers that capture the maximum share of the market. Moreover, a detailed competitive benchmarking of the players operating in the global ultra-wideband technology-based vehicle access control market has been done to help the readers understand how players compete against each other, presenting a clear market landscape. Additionally, comprehensive competitive strategies such as partnerships, agreements, collaborations, and mergers and acquisitions are expected to help the readers understand the untapped revenue pockets in the market.

### Key Market Players and Competition Synopsis

The companies that are profiled have been selected based on inputs gathered from

primary experts and analyzing company coverage, product portfolio, and market penetration.

### Key Companies Profiled

Alereon Inc.

Apple Inc.

Microchip Technology Inc.

NXP Semiconductors

Pulse~LINK, Inc.

Qorvo, Inc.

STMicroelectronics N.V.

Xiaomi

BMW Group

CEVA, Inc.

Continental AG

Hyundai Motor Group

Robert Bosch GmbH

Samsung Electronics Co., Ltd.

Sirin Software

Valeo

## Contents

### 1 MARKETS

#### 1.1 Industry Outlook

1.1.1 Ultra-Wideband (UWB) Technology-Based Vehicle Access Control: Overview

1.1.2 Trends: Current and Future

1.1.2.1 Deployment of UWB Technology in Automotive Applications

1.1.2.2 Emergence of Various Technologies, Such as 5G and AI

1.1.2.3 Rising Investments in Automobile Industry

1.1.3 Comparison of UWB and Other Positioning Technologies

1.1.4 Regulatory Landscape

1.1.4.1 Consortiums, Associations, and Regulatory Bodies

1.1.4.2 Government Programs and Initiatives

1.1.4.3 Programs by Research Institutions and Universities

1.1.5 Supply Chain Network

1.1.6 Technology Roadmap

1.1.7 Key Patent Mapping

1.1.8 Other Emerging Ultra-Wideband Applications

#### 1.2 Case Study

1.2.1 Case Study 1: UWB Technology-Based Digital Keys for Secured Vehicles  
Access

1.2.2 Case Study 2: BMW Digital Key Plus

1.2.3 Case Study 3: Continental Key as a Service (CKaaS)

#### 1.3 Business Dynamics

1.3.1 Business Drivers

1.3.1.1 Increasing Adoption of Real-Time Location System (RTLS) Applications in  
Vehicle

1.3.1.2 Growing Adoption of the Internet of Things (IoT) in Automotive Applications

1.3.2 Business Challenges

1.3.2.1 Risk of Cyber Attacks

1.3.2.2 Spectrum Expansion for New Applications

1.3.3 Business Strategies

1.3.3.1 Market Development

1.3.3.2 Product Development

1.3.4 Corporate Strategies

1.3.4.1 Mergers and Acquisitions

1.3.4.2 Partnerships, Collaborations, and Joint Ventures

1.3.5 Business Opportunities



- 1.3.5.1 Growing Demand for Connected and Autonomous Vehicles
- 1.3.5.2 Future Potential of 5G and Artificial Intelligence

## **2 APPLICATION**

2.1 Global Ultra-Wideband Technology-Based Vehicle Access Control Market – Applications and Specifications

2.1.1 Global Ultra-Wideband Technology-Based Vehicle Access Control Market (by Vehicle Type)

- 2.1.1.1 Passenger Vehicles
- 2.1.1.2 Light Commercial Vehicles (LCVs)
- 2.1.1.3 Heavy Commercial Vehicles (HCVs)

2.1.2 Global Ultra-Wideband Technology-Based Vehicle Access Control Market (by Authentication Type)

- 2.1.2.1 Biometric
- 2.1.2.2 Non-Biometric

2.2 Global Ultra-Wideband Technology-Based Vehicle Access Control Market: Demand Market Analysis (by Application)

2.2.1 Demand Analysis of the Global Ultra-Wideband Technology-Based Vehicle Access Control Market (by Vehicle Type)

- 2.2.1.1 Passenger Vehicles
- 2.2.1.2 Light Commercial Vehicles
- 2.2.1.3 Heavy Commercial Vehicles

2.2.2 Demand Analysis of the Global Ultra-Wideband Technology-Based Vehicle Access Control Market (by Authentication Type)

- 2.2.2.1 Biometric
- 2.2.2.2 Non-Biometric

## **3 PRODUCTS**

3.1 Global Ultra-Wideband Technology-Based Vehicle Access Control Market – Products and Specifications

3.1.1 Global Ultra-Wideband Technology-Based Vehicle Access Control Market (by Component Type)

- 3.1.1.1 Software
- 3.1.1.2 Hardware
  - 3.1.1.2.1 Smart Devices
  - 3.1.1.2.2 Key Fob
  - 3.1.1.2.3 In-Vehicle Access Chip Set

### 3.1.2 Global Ultra-Wideband Technology-Based Vehicle Access Control Market (by Frequency Range)

3.1.2.1 3.1 GHz to 6 GHz

3.1.2.2 6 GHz to 10.6 GHz

### 3.1.3 Global Ultra-Wideband Technology-Based Vehicle Access Control Market (by Positioning Technique)

3.1.3.1 Time Difference of Arrival (TDoA)

3.1.3.2 Two-Way Ranging (TWR)

### 3.2 Demand Analysis of the Global Ultra-Wideband Technology-Based Vehicle Access Control Market (by Product)

#### 3.2.1 Demand Analysis of Global Ultra-Wideband Technology-Based Vehicle Access Control Market, Value Data (by Component Type)

3.2.1.1 Software

3.2.1.2 Hardware

3.2.1.2.1 Smart Devices

3.2.1.2.2 Key Fob

3.2.1.2.3 In-Vehicle Access Chip Set

#### 3.2.2 Demand Analysis of Global Ultra-Wideband Technology-Based Vehicle Access Control Market, Value Data (by Frequency Range)

3.2.2.1 3.1 GHz to 6 GHz

3.2.2.2 6 GHz to 10.6 GHz

#### 3.2.3 Demand Analysis of Global Ultra-Wideband Technology-Based Vehicle Access Control Market, Value Data (by Positioning Technique)

3.2.3.1 Time Difference of Arrival (TDoA)

3.2.3.2 Two-Way Ranging (TWR)

### 3.3 Product Benchmarking: Growth Rate – Market Share Matrix

3.3.1 Opportunity Matrix (by Region)

3.3.2 Opportunity Matrix (by Vehicle Type)

## 4 REGIONS

### 4.1 North America

4.1.1 Market

4.1.1.1 Buyer Attributes

4.1.1.2 Key Ultra-Wideband (UWB) Technology-Based Vehicle Access Control

Providers in North America

4.1.1.3 Business Challenges

4.1.1.4 Business Drivers

4.1.2 Application

4.1.2.1 North America Ultra-Wideband Technology-Based Vehicle Access Control Market Demand (by Vehicle type), Value Data

4.1.2.2 North America Ultra-Wideband Technology-Based Vehicle Access Control Market Demand (by Authentication Type), Value Data

4.1.3 Product

4.1.3.1 North America Ultra-Wideband Technology-Based Vehicle Access Control Market Demand (by Component Type), Value Data

4.1.3.2 North America Ultra-Wideband Technology-Based Vehicle Access Control Market Demand (by Frequency Range), Value Data

4.1.3.3 North America Ultra-Wideband Technology-Based Vehicle Access Control Market Demand (by Positioning Technique), Value Data

4.1.4 North America (by Country)

4.1.4.1 U.S.

4.1.4.1.1 Market

4.1.4.1.1.1 Buyer Attributes

4.1.4.1.1.2 Key Solution Providers in the U.S.

4.1.4.1.1.3 Business Challenges

4.1.4.1.1.4 Business Drivers

4.1.4.1.2 Application

4.1.4.1.2.1 U.S. Ultra-Wideband Technology-Based Vehicle Access Control Market Demand (by Vehicle type), Value Data

4.1.4.1.2.2 U.S. Ultra-Wideband Technology-Based Vehicle Access Control Market Demand (by Authentication Type), Value Data

4.1.4.1.3 Product

4.1.4.1.3.1 U.S. Ultra-Wideband Technology-Based Vehicle Access Control Market Demand (by Component Type), Value Data

4.1.4.1.3.2 U.S. Ultra-Wideband Technology-Based Vehicle Access Control Market Demand (by Frequency Range), Value Data

4.1.4.1.3.3 U.S. Ultra-Wideband Technology-Based Vehicle Access Control Market Demand (by Positioning Technique), Value Data

4.1.4.2 Canada

4.1.4.2.1 Market

4.1.4.2.1.1 Buyer Attributes

4.1.4.2.1.2 Key Solution Providers in Canada

4.1.4.2.1.3 Business Challenges

4.1.4.2.1.4 Business Drivers

4.1.4.2.2 Application

4.1.4.2.2.1 Canada Ultra-Wideband Technology-Based Vehicle Access Control Market Demand (by Vehicle Type), Value Data

4.1.4.2.2.2 Canada Ultra-Wideband Technology-Based Vehicle Access Control Market Demand (by Authentication Type), Value Data

4.1.4.2.3 Product

4.1.4.2.3.1 Canada Ultra-Wideband Technology-Based Vehicle Access Control Market Demand (by Component Type), Value Data

4.1.4.2.3.2 Canada Ultra-Wideband Technology-Based Vehicle Access Control Market Demand (by Frequency Range), Value Data

4.1.4.2.3.3 Canada Ultra-Wideband Technology-Based Vehicle Access Control Market Demand (by Positioning Technique), Value Data

4.1.4.3 Mexico

4.1.4.3.1 Market

4.1.4.3.1.1 Buyer Attributes

4.1.4.3.1.2 Key Solution Providers in Mexico

4.1.4.3.1.3 Business Challenges

4.1.4.3.1.4 Business Drivers

4.1.4.3.2 Application

4.1.4.3.2.1 Mexico Ultra-Wideband Technology-Based Vehicle Access Control Market Demand (by Vehicle Type), Value Data

4.1.4.3.2.2 Mexico Ultra-Wideband Technology-Based Vehicle Access Control Market Demand (by Authentication Type), Value Data

4.1.4.3.3 Product

4.1.4.3.3.1 Mexico Ultra-Wideband Technology-Based Vehicle Access Control Market Demand (by Component Type), Value Data

4.1.4.3.3.2 Mexico Ultra-Wideband Technology-Based Vehicle Access Control Market Demand (by Frequency Range), Value Data

4.1.4.3.3.3 Mexico Ultra-Wideband Technology-Based Vehicle Access Control Market Demand (by Positioning Technique), Value Data

4.2 Europe

4.2.1 Market

4.2.1.1 Buyer Attributes

4.2.1.2 Key Solution Providers in Europe

4.2.1.3 Business Challenges

4.2.1.4 Business Drivers

4.2.2 Application

4.2.2.1 Europe Ultra-Wideband Technology-Based Vehicle Access Control Market Demand (by Vehicle Type), Value Data

4.2.2.2 Europe Ultra-Wideband Technology-Based Vehicle Access Control Market Demand (by Authentication Type), Value Data

4.2.3 Product

4.2.3.1 Europe Ultra-Wideband Technology-Based Vehicle Access Control Market Demand (by Component Type), Value Data

4.2.3.2 Europe Ultra-Wideband Technology-Based Vehicle Access Control Market Demand (by Frequency Range), Value Data

4.2.3.3 Europe Ultra-Wideband Technology-Based Vehicle Access Control Market Demand (by Positioning Technique), Value Data

4.2.4 Europe (by Country)

4.2.4.1 Germany

4.2.4.1.1 Market

4.2.4.1.1.1 Buyer Attributes

4.2.4.1.1.2 Key Solution Providers in Germany

4.2.4.1.1.3 Business Challenges

4.2.4.1.1.4 Business Drivers

4.2.4.1.2 Application

4.2.4.1.2.1 Germany Ultra-Wideband Technology-Based Vehicle Access Control Market Demand (by Vehicle Type), Value Data

4.2.4.1.2.2 Germany Ultra-Wideband Technology-Based Vehicle Access Control Market Demand (by Authentication Type), Value Data

4.2.4.1.3 Product

4.2.4.1.3.1 Germany Ultra-Wideband Technology-Based Vehicle Access Control Market Demand (by Component Type), Value Data

4.2.4.1.3.2 Germany Ultra-Wideband Technology-Based Vehicle Access Control Market Demand (by Frequency Range), Value Data

4.2.4.1.3.3 Germany Ultra-Wideband Technology-Based Vehicle Access Control Market Demand (by Positioning Technique), Value Data

4.2.4.2 France

4.2.4.2.1 Market

4.2.4.2.1.1 Buyer Attributes

4.2.4.2.1.2 Key Solution Providers in France

4.2.4.2.1.3 Business Challenges

4.2.4.2.1.4 Business Drivers

4.2.4.2.2 Application

4.2.4.2.2.1 France Ultra-Wideband Technology-Based Vehicle Access Control Market Demand (by Vehicle Type), Value Data

4.2.4.2.2.2 France Ultra-Wideband Technology-Based Vehicle Access Control Market Demand (by Authentication Type), Value Data

4.2.4.2.3 Product

4.2.4.2.3.1 France Ultra-Wideband Technology-Based Vehicle Access Control Market Demand (by Component Type), Value Data

4.2.4.2.3.2 France Ultra-Wideband Technology-Based Vehicle Access Control Market Demand (by Frequency Range), Value Data

4.2.4.2.3.3 France Ultra-Wideband Technology-Based Vehicle Access Control Market Demand (by Positioning Technique), Value Data

#### 4.2.4.3 Italy

##### 4.2.4.3.1 Market

4.2.4.3.1.1 Buyer Attributes

4.2.4.3.1.2 Key Solution Providers in Italy

4.2.4.3.1.3 Business Challenges

4.2.4.3.1.4 Business Drivers

##### 4.2.4.3.2 Application

4.2.4.3.2.1 Italy Ultra-Wideband Technology-Based Vehicle Access Control Market Demand (by Vehicle Type), Value Data

4.2.4.3.2.2 Italy Ultra-Wideband Technology-Based Vehicle Access Control Market Demand (by Authentication Type), Value Data

##### 4.2.4.3.3 Product

4.2.4.3.3.1 Italy Ultra-Wideband Technology-Based Vehicle Access Control Market Demand (by Component Type), Value Data

4.2.4.3.3.2 Italy Ultra-Wideband Technology-Based Vehicle Access Control Market Demand (by Frequency Range), Value Data

4.2.4.3.3.3 Italy Ultra-Wideband Technology-Based Vehicle Access Control Market Demand (by Positioning Technique), Value Data

#### 4.2.4.4 Rest-of-Europe

##### 4.2.4.4.1 Market

4.2.4.4.1.1 Buyer Attributes

4.2.4.4.1.2 Key Solution Providers in Rest-of-Europe

4.2.4.4.1.3 Business Challenges

4.2.4.4.1.4 Business Drivers

##### 4.2.4.4.2 Application

4.2.4.4.2.1 Rest-of-Europe Ultra-Wideband Technology-Based Vehicle Access Control Market Demand (by Vehicle Type), Value Data

4.2.4.4.2.2 Rest-of-Europe Ultra-Wideband Technology-Based Vehicle Access Control Market Demand (by Authentication Type), Value Data

##### 4.2.4.4.3 Product

4.2.4.4.3.1 Rest-of-Europe Ultra-Wideband Technology-Based Vehicle Access Control Market Demand (by Component Type), Value Data

4.2.4.4.3.2 Rest-of-Europe Ultra-Wideband Technology-Based Vehicle Access Control Market Demand (by Frequency Range), Value Data

4.2.4.4.3.3 Rest-of-Europe Ultra-Wideband Technology-Based Vehicle Access



## Control Market Demand (by Positioning Technique), Value Data

### 4.3 U.K.

#### 4.3.1 Market

##### 4.3.1.1 Buyer Attributes

##### 4.3.1.2 Key Solution Providers in the U.K.

##### 4.3.1.3 Business Challenges

##### 4.3.1.4 Business Drivers

#### 4.3.2 Application

##### 4.3.2.1 U.K. Ultra-Wideband Technology-Based Vehicle Access Control Market Demand (by Vehicle Type), Value Data

##### 4.3.2.2 U.K. Ultra-Wideband Technology-Based Vehicle Access Control Market Demand (by Authentication Type), Value Data

#### 4.3.3 Product

##### 4.3.3.1 U.K. Ultra-Wideband Technology-Based Vehicle Access Control Market Demand (by Component Type), Value Data

##### 4.3.3.2 U.K. Ultra-Wideband Technology-Based Vehicle Access Control Market Demand (by Frequency Range), Value Data

##### 4.3.3.3 U.K. Ultra-Wideband Technology-Based Vehicle Access Control Market Demand (by Positioning Technique), Value Data

### 4.4 China

#### 4.4.1 Market

##### 4.4.1.1 Buyer Attributes

##### 4.4.1.2 Key Solution Providers in China

##### 4.4.1.3 Business Challenges

##### 4.4.1.4 Business Drivers

#### 4.4.2 Application

##### 4.4.2.1 China Ultra-Wideband Technology-Based Vehicle Access Control Market Demand (by Vehicle Type), Value Data

##### 4.4.2.2 China Ultra-Wideband Technology-Based Vehicle Access Control Market Demand (by Authentication Type), Value Data

#### 4.4.3 Product

##### 4.4.3.1 China Ultra-Wideband Technology-Based Vehicle Access Control Market Demand (by Component Type), Value Data

##### 4.4.3.2 China Ultra-Wideband Technology-Based Vehicle Access Control Market Demand (by Frequency Range), Value Data

##### 4.4.3.3 China Ultra-Wideband Technology-Based Vehicle Access Control Market Demand (by Positioning Technique), Value Data

### 4.5 Asia-Pacific and Japan

#### 4.5.1 Market

- 4.5.1.1 Buyer Attributes
- 4.5.1.2 Key Solution Providers in Asia-Pacific and Japan
- 4.5.1.3 Business Challenges
- 4.5.1.4 Business Drivers
- 4.5.2 Application
  - 4.5.2.1 Asia-Pacific and Japan Ultra-Wideband Technology-Based Vehicle Access Control Market Demand (by Vehicle Type), Value Data
  - 4.5.2.2 Asia-Pacific and Japan Ultra-Wideband Technology-Based Vehicle Access Control Market Demand (by Authentication Type), Value Data
- 4.5.3 Product
  - 4.5.3.1 Asia-Pacific and Japan Ultra-Wideband Technology-Based Vehicle Access Control Market Demand (by Component Type), Value Data
  - 4.5.3.2 Asia-Pacific and Japan Ultra-Wideband Technology-Based Vehicle Access Control Market Demand (by Frequency Range), Value Data
  - 4.5.3.3 Asia-Pacific and Japan Ultra-Wideband Technology-Based Vehicle Access Control Market Demand (by Positioning Technique), Value Data
- 4.5.4 Asia-Pacific and Japan (by Country)
  - 4.5.4.1 Japan
    - 4.5.4.1.1 Market
      - 4.5.4.1.1.1 Buyer Attributes
      - 4.5.4.1.1.2 Key Solution Providers in Japan
      - 4.5.4.1.1.3 Business Challenges
      - 4.5.4.1.1.4 Business Drivers
    - 4.5.4.1.2 Application
      - 4.5.4.1.2.1 Japan Ultra-Wideband Technology-Based Vehicle Access Control Market Demand (by Vehicle Type), Value Data
      - 4.5.4.1.2.2 Japan Ultra-Wideband Technology-Based Vehicle Access Control Market Demand (by Authentication Type), Value Data
    - 4.5.4.1.3 Product
      - 4.5.4.1.3.1 Japan Ultra-Wideband Technology-Based Vehicle Access Control Market Demand (by Component Type), Value Data
      - 4.5.4.1.3.2 Japan Ultra-Wideband Technology-Based Vehicle Access Control Market Demand (by Frequency Range), Value Data
      - 4.5.4.1.3.3 Japan Ultra-Wideband Technology-Based Vehicle Access Control Market Demand (by Positioning Technique), Value Data
  - 4.5.4.2 South Korea
    - 4.5.4.2.1 Market
      - 4.5.4.2.1.1 Buyer Attributes
      - 4.5.4.2.1.2 Key Solution Providers in South Korea



- 4.5.4.2.1.3 Business Challenges
- 4.5.4.2.1.4 Business Drivers
- 4.5.4.2.2 Application
  - 4.5.4.2.2.1 South Korea Ultra-Wideband Technology-Based Vehicle Access Control Market Demand (by Vehicle Type), Value Data
  - 4.5.4.2.2.2 South Korea Ultra-Wideband Technology-Based Vehicle Access Control Market Demand (by Authentication Type), Value Data
- 4.5.4.2.3 Product
  - 4.5.4.2.3.1 South Korea Ultra-Wideband Technology-Based Vehicle Access Control Market Demand (by Component Type), Value Data
  - 4.5.4.2.3.2 South Korea Ultra-Wideband Technology-Based Vehicle Access Control Market Demand (by Frequency Range), Value Data
  - 4.5.4.2.3.3 South Korea Ultra-Wideband Technology-Based Vehicle Access Control Market Demand (by Positioning Technique), Value Data
- 4.5.4.3 Rest-of-Asia-Pacific
  - 4.5.4.3.1 Market
    - 4.5.4.3.1.1 Buyer Attributes
    - 4.5.4.3.1.2 Key Solution Providers in Rest-of-Asia-Pacific
    - 4.5.4.3.1.3 Business Challenges
    - 4.5.4.3.1.4 Business Drivers
  - 4.5.4.3.2 Application
    - 4.5.4.3.2.1 Rest-of-Asia-Pacific Ultra-Wideband Technology-Based Vehicle Access Control Market Demand (by Vehicle Type), Value Data
    - 4.5.4.3.2.2 Rest-of-Asia-Pacific Ultra-Wideband Technology-Based Vehicle Access Control Market Demand (by Authentication Type), Value Data
  - 4.5.4.3.3 Product
    - 4.5.4.3.3.1 Rest-of-Asia-Pacific Ultra-Wideband Technology-Based Vehicle Access Control Market Demand (by Component Type), Value Data
    - 4.5.4.3.3.2 Rest-of-Asia-Pacific Ultra-Wideband Technology-Based Vehicle Access Control Market Demand (by Frequency Range), Value Data
    - 4.5.4.3.3.3 Rest-of-Asia-Pacific Ultra-Wideband Technology-Based Vehicle Access Control Market Demand (by Positioning Technique), Value Data
- 4.6 Rest-of-the-World
  - 4.6.1 Market
    - 4.6.1.1 Buyer Attributes
    - 4.6.1.2 Key Solution Providers in the Rest-of-the-World
    - 4.6.1.3 Business Challenges
    - 4.6.1.4 Business Drivers
  - 4.6.2 Application

4.6.2.1 Rest-of-the-World Ultra-Wideband Technology-Based Vehicle Access Control Market Demand (by Vehicle Type), Value Data

4.6.2.2 Rest-of-the-World Ultra-Wideband Technology-Based Vehicle Access Control Market Demand (by Authentication Type), Value Data

4.6.3 Product

4.6.3.1 Rest-of-the-World Ultra-Wideband Technology-Based Vehicle Access Control Market Demand (by Component Type), Value Data

4.6.3.2 Rest-of-the-World Ultra-Wideband Technology-Based Vehicle Access Control Market Demand (by Frequency Range), Value Data

4.6.3.3 Rest-of-the-World Ultra-Wideband Technology-Based Vehicle Access Control Market Demand (by Positioning Technique), Value Data

## **5 MARKETS - COMPETITIVE BENCHMARKING & COMPANY PROFILES**

5.1 Competitive Benchmarking

5.2 Market Player Ranking

5.3 Company Profiles

5.3.1 Type 1: UWB Chip Suppliers

5.3.1.1 Alereon Inc.

5.3.1.1.1 Company Overview

5.3.1.1.1.1 Role of Alereon Inc. in the Ultra-Wideband (UWB) Technology-Based Vehicle Access Control Market

5.3.1.1.1.2 Product Portfolio

5.3.1.1.2 Analyst View

5.3.1.2 Apple Inc.

5.3.1.2.1 Company Overview

5.3.1.2.1.1 Role of Apple Inc. in the Ultra-Wideband (UWB) Technology-Based Vehicle Access Control Market

5.3.1.2.1.2 Product Portfolio

5.3.1.2.1.3 R&D Analysis

5.3.1.2.2 Business Strategies

5.3.1.2.2.1 Product Development

5.3.1.2.3 Analyst View

5.3.1.3 Microchip Technology Inc.

5.3.1.3.1 Company Overview

5.3.1.3.1.1 Role of Microchip Technology Inc. in the Ultra-Wideband (UWB) Technology-Based Vehicle Access Control Market

5.3.1.3.1.2 Product Portfolio

5.3.1.3.1.3 R&D Analysis

- 5.3.1.3.2 Corporate Strategies
- 5.3.1.3.3 Mergers and Acquisitions
- 5.3.1.3.4 Analyst View
- 5.3.1.4 NXP Semiconductors
  - 5.3.1.4.1 Company Overview
    - 5.3.1.4.1.1 Role of NXP Semiconductors in the Ultra-Wideband (UWB) Technology-Based Vehicle Access Control Market
  - 5.3.1.4.1.2 Product Portfolio
  - 5.3.1.4.1.3 R&D Analysis
  - 5.3.1.4.2 Business Strategies
    - 5.3.1.4.2.1 Product Development
  - 5.3.1.4.3 Corporate Strategies
    - 5.3.1.4.3.1 Partnerships, Joint Ventures, Collaborations, and Alliances
  - 5.3.1.4.4 Analyst View
- 5.3.1.5 Pulse~LINK, Inc.
  - 5.3.1.5.1 Company Overview
    - 5.3.1.5.1.1 Role of Pulse~LINK, Inc. in the Ultra-Wideband (UWB) Technology-Based Vehicle Access Control Market
  - 5.3.1.5.1.2 Product Portfolio
  - 5.3.1.5.2 Analyst View
- 5.3.1.6 Qorvo, Inc.
  - 5.3.1.6.1 Company Overview
    - 5.3.1.6.1.1 Role of Qorvo, Inc. in the Ultra-Wideband (UWB) Technology-Based Vehicle Access Control Market
  - 5.3.1.6.1.2 Product Portfolio
  - 5.3.1.6.1.3 R&D Analysis
  - 5.3.1.6.2 Business Strategies
    - 5.3.1.6.2.1 Product Development
  - 5.3.1.6.3 Corporate Strategies
    - 5.3.1.6.3.1 Mergers and Acquisitions
    - 5.3.1.6.3.2 Partnerships, Joint Ventures, Collaborations, and Alliances
  - 5.3.1.6.4 Analyst View
- 5.3.1.7 STMicroelectronics N.V.
  - 5.3.1.7.1 Company Overview
    - 5.3.1.7.1.1 Role of STMicroelectronics N.V. in the Ultra-Wideband (UWB) Technology-Based Vehicle Access Control Market
  - 5.3.1.7.1.2 Product Portfolio
  - 5.3.1.7.1.3 R&D Analysis
  - 5.3.1.7.2 Business Strategies

- 5.3.1.7.2.1 Product Development
  - 5.3.1.7.3 Corporate Strategies
    - 5.3.1.7.3.1 Partnerships, Joint Ventures, Collaborations, and Alliances
  - 5.3.1.7.4 Analyst View
  - 5.3.1.8 Xiaomi
    - 5.3.1.8.1 Company Overview
      - 5.3.1.8.1.1 Role of Xiaomi in the Ultra-Wideband (UWB) Technology-Based Vehicle Access Control Market
    - 5.3.1.8.1.2 Product Portfolio
    - 5.3.1.8.1.3 R&D Analysis
  - 5.3.1.8.2 Analyst View
- 5.3.2 Type 2: UWB Solution Integrators
  - 5.3.2.1 BMW Group
    - 5.3.2.1.1 Company Overview
      - 5.3.2.1.1.1 Role of BMW Group in the Ultra-Wideband (UWB) Technology-Based Vehicle Access Control Market
    - 5.3.2.1.1.2 Product Portfolio
    - 5.3.2.1.1.3 R&D Analysis
  - 5.3.2.1.2 Business Strategies
    - 5.3.2.1.2.1 Product Development
  - 5.3.2.1.3 Corporate Strategies
    - 5.3.2.1.3.1 Partnerships, Joint Ventures, Collaborations, and Alliances
  - 5.3.2.1.4 Analyst View
- 5.3.2.2 CEVA, Inc.
  - 5.3.2.2.1 Company Overview
    - 5.3.2.2.1.1 Role of CEVA, Inc. in the Ultra-Wideband (UWB) Technology-Based Vehicle Access Control Market
  - 5.3.2.2.1.2 Product Portfolio
  - 5.3.2.2.1.3 R&D Analysis
- 5.3.2.2.2 Business Strategies
  - 5.3.2.2.2.1 Product Development
  - 5.3.2.2.2.2 Market Development
- 5.3.2.2.3 Analyst View
- 5.3.2.3 Continental AG
  - 5.3.2.3.1 Company Overview
    - 5.3.2.3.1.1 Role of Continental AG in the Ultra-Wideband (UWB) Technology-Based Vehicle Access Control Market
  - 5.3.2.3.1.2 Product Portfolio
  - 5.3.2.3.1.3 R&D Analysis

- 5.3.2.3.2 Business Strategies
  - 5.3.2.3.2.1 Product Development
  - 5.3.2.3.2.2 Market Development
- 5.3.2.3.3 Analyst View
- 5.3.2.4 Hyundai Motor Group
  - 5.3.2.4.1 Company Overview
    - 5.3.2.4.1.1 Role of Hyundai Motor Group in the Ultra-Wideband (UWB) Technology-Based Vehicle Access Control Market
    - 5.3.2.4.1.2 Product Portfolio
    - 5.3.2.4.1.3 R&D Analysis
  - 5.3.2.4.2 Business Strategies
    - 5.3.2.4.2.1 Product Development
    - 5.3.2.4.2.2 Market Development
  - 5.3.2.4.3 Corporate Strategies
  - 5.3.2.4.4 Mergers and Acquisitions
    - 5.3.2.4.4.1 Partnerships, Joint Ventures, Collaborations, and Alliances
  - 5.3.2.4.5 Analyst View
- 5.3.2.5 Robert Bosch GmbH
  - 5.3.2.5.1 Company Overview
    - 5.3.2.5.1.1 Role of Robert Bosch GmbH in the Ultra-Wideband (UWB) Technology-Based Vehicle Access Control Market
    - 5.3.2.5.1.2 Product Portfolio
    - 5.3.2.5.1.3 R&D Analysis
  - 5.3.2.5.2 Analyst View
- 5.3.2.6 Samsung Electronics Co., Ltd.
  - 5.3.2.6.1 Company Overview
    - 5.3.2.6.1.1 Role of Samsung Electronics Co., Ltd. in the Ultra-Wideband (UWB) Technology-Based Vehicle Access Control Market
    - 5.3.2.6.1.2 Product Portfolio
    - 5.3.2.6.1.3 R&D Analysis
  - 5.3.2.6.2 Corporate Strategies
    - 5.3.2.6.2.1 Partnerships, Joint Ventures, Collaborations, and Alliances
  - 5.3.2.6.3 Analyst View
- 5.3.2.7 Sirin Software
  - 5.3.2.7.1 Company Overview
    - 5.3.2.7.1.1 Role of Sirin Software in the Ultra-Wideband (UWB) Technology-Based Vehicle Access Control Market
    - 5.3.2.7.1.2 Product Portfolio
  - 5.3.2.7.2 Analyst View

### 5.3.2.8 Valeo

#### 5.3.2.8.1 Company Overview

##### 5.3.2.8.1.1 Role of Valeo in the Ultra-Wideband (UWB) Technology-Based Vehicle

#### Access Control Market

##### 5.3.2.8.1.2 Product Portfolio

##### 5.3.2.8.1.3 R&D Analysis

#### 5.3.2.8.2 Analyst View

### 5.3.3 12. List of Other Key Players

## 6 RESEARCH METHODOLOGY

### 6.1 Data Sources

#### 6.1.1 Primary Data Sources

#### 6.1.2 Secondary Data Sources

#### 6.1.3 Data Triangulation

### 6.2 Market Estimation and Forecast

#### 6.2.1 Factors for Data Prediction and Modeling

## List Of Figures

### LIST OF FIGURES

Figure 1: Ultra-Wideband Technology-Based Vehicle Access Control Market Overview, \$Million, 2021-2031

Figure 2: Global Ultra-Wideband Technology-Based Vehicle Access Control Market (by Vehicle Type), \$Million, 2021-2031

Figure 3: Global Ultra-Wideband Technology-Based Vehicle Access Control Market (by Authentication Type), \$Million, 2021-2031

Figure 4: Global Ultra-Wideband Technology-Based Vehicle Access Control Market (by Hardware Type), \$Million, 2021-2031

Figure 5: Global Ultra-Wideband Technology-Based Vehicle Access Control Market (by Frequency Range), \$Million, 2021-2031

Figure 6: Global Ultra-Wideband Technology-Based Vehicle Access Control Market (by Positioning Technique), \$Million, 2021-2031

Figure 7: Global Ultra-Wideband Technology-Based Vehicle Access Control Market (by Region), \$Million, 2021

Figure 8: Global Ultra-Wideband Technology-Based Vehicle Access Control Market Segmentation

Figure 9: Global Ultra-Wideband Technology-Based Vehicle Access Control Market Supply Chain

Figure 10: Global Ultra-Wideband Technology-Based Vehicle Access Control Market Supply Chain Participants

Figure 11: Technology Roadmap

Figure 12: Business Dynamics for Global Ultra-Wideband Technology-Based Vehicle Access Control Market

Figure 13: Impact of Business Drivers

Figure 14: Impact of Business Challenges

Figure 15: Share of Key Business Strategies (2020-2022)

Figure 16: Share of Key Market Developments (2020-2022)

Figure 17: Share of Key Product Developments (2020-2022)

Figure 18: Share of Key Corporate Strategies and Developments (2020-2022)

Figure 19: Share of Key Mergers and Acquisitions (2020-2022)

Figure 20: Share of Key Partnerships, Collaborations, and Joint Ventures (2020-2022)

Figure 21: Impact of Business Opportunities

Figure 22: Global Ultra-Wideband Technology-Based Vehicle Access Control Market (Passenger Vehicle), \$Million, 2021-2031

Figure 23: Global Ultra-Wideband Technology-Based Vehicle Access Control Market



(Light Commercial Vehicle), \$Million, 2021-2031

Figure 24: Global Ultra-Wideband Technology-Based Vehicle Access Control Market (Heavy Commercial Vehicle), \$Million, 2021-2031

Figure 25: Global Ultra-Wideband Technology-Based Vehicle Access Control Market (Biometric), \$Million, 2021-2031

Figure 26: Global Ultra-Wideband Technology-Based Vehicle Access Control Market (Non-Biometric), \$Million, 2021-2031

Figure 27: Global Ultra-Wideband Technology-Based Vehicle Access Control Market (Time Difference of Arrival)

Figure 28: Global Ultra-Wideband Technology-Based Vehicle Access Control Market (Two-Way Ranging)

Figure 29: Global Ultra-Wideband Technology-Based Vehicle Access Control Market (Software), \$Million, 2021-2031

Figure 30: Global Ultra-Wideband Technology-Based Vehicle Access Control Market (Hardware), \$Million, 2021-2031

Figure 31: Global Ultra-Wideband Technology-Based Vehicle Access Control Market (Smart Device), \$Million, 2021-2031

Figure 32: Global Ultra-Wideband Technology-Based Vehicle Access Control Market (Key Fob), \$Million, 2021-2031

Figure 33: Global Ultra-Wideband Technology-Based Vehicle Access Control Market (In-Vehicle Access Chip Set), \$Million, 2021-2031

Figure 34: Global Ultra-Wideband Technology-Based Vehicle Access Control Market (3.1 GHz to 6 GHz), \$Million, 2021-2031

Figure 35: Global Ultra-Wideband Technology-Based Vehicle Access Control Market (6 GHz to 10.6 GHz), \$Million, 2021-2031

Figure 36: Global Ultra-Wideband Technology-Based Vehicle Access Control Market (Time Difference of Arrival (TDoA)), \$Million, 2021-2031

Figure 37: Global Ultra-Wideband Technology-Based Vehicle Access Control Market (Two-Way Ranging (TWR)), \$Million, 2021-2031

Figure 38: Global Ultra-Wideband Technology-Based Vehicle Access Control Market, Opportunity Matrix (by Region), \$Million

Figure 39: Global Ultra-Wideband Technology-Based Vehicle Access Control Market, Opportunity Matrix (by Vehicle Type), \$Million

Figure 40: Global Competitive Benchmarking, 2021

Figure 41: Apple Inc.: R&D Expenditure, \$Billion, 2019-2021

Figure 42: Microchip Technology Inc.: R&D Expenditure, \$Million, 2020-2022

Figure 43: NXP Semiconductors: R&D Expenditure, \$Billion, 2019-2021

Figure 44: Qorvo, Inc.: R&D Expenditure, \$Million, 2020-2022

Figure 45: STMicroelectronics N.V.: R&D Expenditure, \$Billion, 2019-2021



Figure 46: Xiaomi: R&D Expenditure, \$Billion, 2019-2021

Figure 47: BMW Group: R&D Expenditure, \$Billion, 2019-2021

Figure 48: CEVA, Inc.: R&D Expenditure, \$Million, 2019-2021

Figure 49: Continental AG: R&D Expenditure, \$Billion, 2019-2021

Figure 50: Hyundai Motor Group: R&D Expenditure, \$Billion, 2019-2021

Figure 51: Robert Bosch GmbH: R&D Expenditure, \$Billion, 2019-2021

Figure 52: Samsung Electronics Co., Ltd.: R&D Expenditure, \$Billion, 2019-2021

Figure 53: Valeo: R&D Expenditure, \$Billion, 2019-2021

Figure 54: Data Triangulation

Figure 55: Top-Down and Bottom-Up Approach

## List Of Tables

### LIST OF TABLES

Table 1: Ultra-Wideband Technology-Based Vehicle Access Control Market Overview, 2021 and 2031

Table 2: Comparison of UWB and Other Positioning Technologies

Table 3: Consortiums, Associations, and Regulatory Bodies

Table 4: Government Programs and Initiatives

Table 5: Programs by Research Institutions and Universities

Table 6: Key Patent Mapping

Table 7: Global Ultra-Wideband Technology-Based Vehicle Access Control Market (by Vehicle Type), \$Million, 2021-2031

Table 8: Global Ultra-Wideband Technology-Based Vehicle Access Control Market (by Authentication Type), \$Million, 2021-2031

Table 9: UWB Channels Based on 3.1 GHz to 6 GHz and their Use in Different Regions

Table 10: UWB Channels Based on 6 GHz to 10.6 GHz and their Use in Different Regions

Table 11: Global Ultra-Wideband Technology-Based Vehicle Access Control Market (by Component Type), \$Million, 2021-2031

Table 12: Global Ultra-Wideband Technology-Based Vehicle Access Control Market (by Frequency Range), \$Million, 2021-2031

Table 13: Global Ultra-Wideband Technology-Based Vehicle Access Control Market (by Positioning Technique), \$Million, 2021-2031

Table 14: Global Ultra-Wideband Technology-Based Vehicle Access Control Market (by Region), \$Million, 2021-2031

Table 15: North America Ultra-Wideband Technology-Based Vehicle Access Control Market (by Vehicle Type), \$Million, 2021-2031

Table 16: North America Ultra-Wideband Technology-Based Vehicle Access Control Market (by Authentication Type), \$Million, 2021-2031

Table 17: North America Ultra-Wideband Technology-Based Vehicle Access Control Market (by Component Type), \$Million, 2021-2031

Table 18: North America Ultra-Wideband Technology-Based Vehicle Access Control Market (by Frequency Range), \$Million, 2021-2031

Table 19: North America Ultra-Wideband Technology-Based Vehicle Access Control Market (by Positioning Technique), \$Million, 2021-2031

Table 20: U.S. Ultra-Wideband Technology-Based Vehicle Access Control Market (by Vehicle Type), \$Million, 2021-2031

Table 21: U.S. Ultra-Wideband Technology-Based Vehicle Access Control Market (by

Authentication Type), \$Million, 2021-2031

Table 22: U.S. Ultra-Wideband Technology-Based Vehicle Access Control Market (by Component Type), \$Million, 2021-2031

Table 23: U.S. Ultra-Wideband Technology-Based Vehicle Access Control Market (by Frequency Range), \$Million, 2021-2031

Table 24: U.S. Ultra-Wideband Technology-Based Vehicle Access Control Market (by Positioning Technique), \$Million, 2021-2031

Table 25: Canada Ultra-Wideband Technology-Based Vehicle Access Control Market (by Vehicle Type), \$Million, 2021-2031

Table 26: Canada Ultra-Wideband Technology-Based Vehicle Access Control Market (by Authentication Type), \$Million, 2021-2031

Table 27: Canada Ultra-Wideband Technology-Based Vehicle Access Control Market (by Component Type), \$Million, 2021-2031

Table 28: Canada Ultra-Wideband Technology-Based Vehicle Access Control Market (by Frequency Range), \$Million, 2021-2031

Table 29: Canada Ultra-Wideband Technology-Based Vehicle Access Control Market (by Positioning Technique), \$Million, 2021-2031

Table 30: Mexico Ultra-Wideband Technology-Based Vehicle Access Control Market (by Vehicle Type), \$Million, 2021-2031

Table 31: Mexico Ultra-Wideband Technology-Based Vehicle Access Control Market (by Authentication Type), \$Million, 2021-2031

Table 32: Mexico Ultra-Wideband Technology-Based Vehicle Access Control Market (by Component Type), \$Million, 2021-2031

Table 33: Mexico Ultra-Wideband Technology-Based Vehicle Access Control Market (by Frequency Range), \$Million, 2021-2031

Table 34: Mexico Ultra-Wideband Technology-Based Vehicle Access Control Market (by Positioning Technique), \$Million, 2021-2031

Table 35: Europe Ultra-Wideband Technology-Based Vehicle Access Control Market (by Vehicle Type), \$Million, 2021-2031

Table 36: Europe Ultra-Wideband Technology-Based Vehicle Access Control Market (by Authentication Type), \$Million, 2021-2031

Table 37: Europe Ultra-Wideband Technology-Based Vehicle Access Control Market (by Component Type), \$Million, 2021-2031

Table 38: Europe Ultra-Wideband Technology-Based Vehicle Access Control Market (by Frequency Range), \$Million, 2021-2031

Table 39: Europe Ultra-Wideband Technology-Based Vehicle Access Control Market (by Positioning Technique), \$Million, 2021-2031

Table 40: Germany Ultra-Wideband Technology-Based Vehicle Access Control Market (by Vehicle Type), \$Million, 2021-2031

- Table 41: Germany Ultra-Wideband Technology-Based Vehicle Access Control Market (by Authentication Type), \$Million, 2021-2031
- Table 42: Germany Ultra-Wideband Technology-Based Vehicle Access Control Market (by Component Type), \$Million, 2021-2031
- Table 43: Germany Ultra-Wideband Technology-Based Vehicle Access Control Market (by Frequency Range), \$Million, 2021-2031
- Table 44: Germany Ultra-Wideband Technology-Based Vehicle Access Control Market (by Positioning Technique), \$Million, 2021-2031
- Table 45: France Ultra-Wideband Technology-Based Vehicle Access Control Market (by Vehicle Type), \$Million, 2021-2031
- Table 46: France Ultra-Wideband Technology-Based Vehicle Access Control Market (by Authentication Type), \$Million, 2021-2031
- Table 47: France Ultra-Wideband Technology-Based Vehicle Access Control Market (by Component Type), \$Million, 2021-2031
- Table 48: France Ultra-Wideband Technology-Based Vehicle Access Control Market (by Frequency Range), \$Million, 2021-2031
- Table 49: France Ultra-Wideband Technology-Based Vehicle Access Control Market (by Positioning Technique), \$Million, 2021-2031
- Table 50: Italy Ultra-Wideband Technology-Based Vehicle Access Control Market (by Vehicle Type), \$Million, 2021-2031
- Table 51: Italy Ultra-Wideband Technology-Based Vehicle Access Control Market (by Authentication Type), \$Million, 2021-2031
- Table 52: Italy Ultra-Wideband Technology-Based Vehicle Access Control Market (by Component Type), \$Million, 2021-2031
- Table 53: Italy Ultra-Wideband Technology-Based Vehicle Access Control Market (by Frequency Range), \$Million, 2021-2031
- Table 54: Italy Ultra-Wideband Technology-Based Vehicle Access Control Market (by Positioning Technique), \$Million, 2021-2031
- Table 55: Rest-of-Europe Ultra-Wideband Technology-Based Vehicle Access Control Market (by Vehicle Type), \$Million, 2021-2031
- Table 56: Rest-of-Europe Ultra-Wideband Technology-Based Vehicle Access Control Market (by Authentication Type), \$Million, 2021-2031
- Table 57: Rest-of-Europe Ultra-Wideband Technology-Based Vehicle Access Control Market (by Component Type), \$Million, 2021-2031
- Table 58: Rest-of-Europe Ultra-Wideband Technology-Based Vehicle Access Control Market (by Frequency Range), \$Million, 2021-2031
- Table 59: Rest-of-Europe Ultra-Wideband Technology-Based Vehicle Access Control Market (by Positioning Technique), \$Million, 2021-2031
- Table 60: U.K. Ultra-Wideband Technology-Based Vehicle Access Control Market (by

Vehicle Type), \$Million, 2021-2031

Table 61: U.K. Ultra-Wideband Technology-Based Vehicle Access Control Market (by Authentication Type), \$Million, 2021-2031

Table 62: U.K. Ultra-Wideband Technology-Based Vehicle Access Control Market (by Component Type), \$Million, 2021-2031

Table 63: U.K. Ultra-Wideband Technology-Based Vehicle Access Control Market (by Frequency Range), \$Million, 2021-2031

Table 64: U.K. Ultra-Wideband Technology-Based Vehicle Access Control Market (by Positioning Technique), \$Million, 2021-2031

Table 65: China Ultra-Wideband Technology-Based Vehicle Access Control Market (by Vehicle Type), \$Million, 2021-2031

Table 66: China Ultra-Wideband Technology-Based Vehicle Access Control Market (by Authentication Type), \$Million, 2021-2031

Table 67: China Ultra-Wideband Technology-Based Vehicle Access Control Market (by Component Type), \$Million, 2021-2031

Table 68: China Ultra-Wideband Technology-Based Vehicle Access Control Market (by Frequency Range), \$Million, 2021-2031

Table 69: China Ultra-Wideband Technology-Based Vehicle Access Control Market (by Positioning Technique), \$Million, 2021-2031

Table 70: Asia-Pacific and Japan Ultra-Wideband Technology-Based Vehicle Access Control Market (by Vehicle Type), \$Million, 2021-2031

Table 71: Asia-Pacific and Japan Ultra-Wideband Technology-Based Vehicle Access Control Market (by Authentication Type), \$Million, 2021-2031

Table 72: Asia-Pacific and Japan Ultra-Wideband Technology-Based Vehicle Access Control Market (by Component Type), \$Million, 2021-2031

Table 73: Asia-Pacific and Japan Ultra-Wideband Technology-Based Vehicle Access Control Market (by Frequency Range), \$Million, 2021-2031

Table 74: Asia-Pacific and Japan Ultra-Wideband Technology-Based Vehicle Access Control Market (by Positioning Technique), \$Million, 2021-2031

Table 75: Japan Ultra-Wideband Technology-Based Vehicle Access Control Market (by Vehicle Type), \$Million, 2021-2031

Table 76: Japan Ultra-Wideband Technology-Based Vehicle Access Control Market (by Authentication Type), \$Million, 2021-2031

Table 77: Japan Ultra-Wideband Technology-Based Vehicle Access Control Market (by Component Type), \$Million, 2021-2031

Table 78: Japan Ultra-Wideband Technology-Based Vehicle Access Control Market (by Frequency Range), \$Million, 2021-2031

Table 79: Japan Ultra-Wideband Technology-Based Vehicle Access Control Market (by Positioning Technique), \$Million, 2021-2031



Table 80: South Korea Ultra-Wideband Technology-Based Vehicle Access Control Market (by Vehicle Type), \$Million, 2021-2031

Table 81: South Korea Ultra-Wideband Technology-Based Vehicle Access Control Market (by Authentication Type), \$Million, 2021-2031

Table 82: South Korea Ultra-Wideband Technology-Based Vehicle Access Control Market (by Component Type), \$Million, 2021-2031

Table 83: South Korea Ultra-Wideband Technology-Based Vehicle Access Control Market (by Frequency Range), \$Million, 2021-2031

Table 84: South Korea Ultra-Wideband Technology-Based Vehicle Access Control Market (by Positioning Technique), \$Million, 2021-2031

Table 85: Rest-of-Asia-Pacific Ultra-Wideband Technology-Based Vehicle Access Control Market (by Vehicle Type), \$Million, 2021-2031

Table 86: Rest-of-Asia-Pacific Ultra-Wideband Technology-Based Vehicle Access Control Market (by Authentication Type), \$Million, 2021-2031

Table 87: Rest-of-Asia-Pacific Ultra-Wideband Technology-Based Vehicle Access Control Market (by Component Type), \$Million, 2021-2031

Table 88: Rest-of-Asia-Pacific Ultra-Wideband Technology-Based Vehicle Access Control Market (by Frequency Range), \$Million, 2021-2031

Table 89: Rest-of-Asia-Pacific Ultra-Wideband Technology-Based Vehicle Access Control Market (by Positioning Technique), \$Million, 2021-2031

Table 90: Rest-of-the-World Ultra-Wideband Technology-Based Vehicle Access Control Market (by Vehicle Type), \$Million, 2021-2031

Table 91: Rest-of-the-World Ultra-Wideband Technology-Based Vehicle Access Control Market (by Authentication Type), \$Million, 2021-2031

Table 92: Rest-of-the-World Ultra-Wideband Technology-Based Vehicle Access Control Market (by Component Type), \$Million, 2021-2031

Table 93: Rest-of-the-World Ultra-Wideband Technology-Based Vehicle Access Control Market (by Frequency Range), \$Million, 2021-2031

Table 94: Rest-of-the-World Ultra-Wideband Technology-Based Vehicle Access Control Market (by Positioning Technique), \$Million, 2021-2031

Table 95: Global Ultra-Wideband Technology-Based Vehicle Access Control Market Player Ranking, 2021

Table 96: Alereon Inc.: Product and Service Portfolio

Table 97: Apple Inc.: Product and Service Portfolio

Table 98: Apple Inc. : Product Development

Table 99: Microchip Technology Inc.: Product and Service Portfolio

Table 100: Microchip Technology Inc.: Mergers and Acquisitions

Table 101: NXP Semiconductors: Product and Service Portfolio

Table 102: NXP Semiconductors: Product Development

Table 103: NXP Semiconductors: Partnerships, Joint Ventures, Collaborations, and Alliances

Table 104: Pulse~LINK, Inc.: Product and Service Portfolio

Table 105: Qorvo, Inc.: Product and Service Portfolio

Table 106: Qorvo, Inc.: Product Development

Table 107: Qorvo, Inc.: Mergers and Acquisitions

Table 108: Qorvo, Inc.: Partnerships, Joint Ventures, Collaborations, and Alliances

Table 109: STMicroelectronics N.V.: Product and Service Portfolio

Table 110: STMicroelectronics N.V.: Product Development

Table 111: STMicroelectronics N.V.: Partnerships, Joint Ventures, Collaborations, and Alliances

Table 112: Xiaomi: Product and Service Portfolio

Table 113: BMW Group: Product and Service Portfolio

Table 114: BMW Group: Product Development

Table 115: BMW Group: Partnerships, Joint Ventures, Collaborations, and Alliances

Table 116: CEVA, Inc.: Product and Service Portfolio

Table 117: CEVA, Inc.: Product Development

Table 118: CEVA, Inc.: Market Development

Table 119: Continental AG: Product and Service Portfolio

Table 120: Continental AG: Product Development

Table 121: Continental AG: Market Development

Table 122: Hyundai Motor Group: Product and Service Portfolio

Table 123: Hyundai Motor Group: Product Development

Table 124: Hyundai Motor Group: Market Development

Table 125: Hyundai Motor Group: Mergers and Acquisitions

Table 126: Hyundai Motor Group: Partnerships, Joint Ventures, Collaborations, and Alliances

Table 127: Robert Bosch GmbH: Product and Service Portfolio

Table 128: Samsung Electronics Co., Ltd.: Product and Service Portfolio

Table 129: Samsung Electronics Co., Ltd.: Partnerships, Joint Ventures, Collaborations, and Alliances

Table 130: Sirin Software: Product and Service Portfolio

Table 131: Valeo: Product and Service Portfolio

## I would like to order

Product name: Ultra-Wideband (UWB) Technology-Based Vehicle Access Control Market - A Global and Regional Analysis: Focus on Application Type, Product Type, and Country-Level Analysis - Analysis and Forecast, 2022-2031

Product link: <https://marketpublishers.com/r/UE1EDFC05A27EN.html>

Price: US\$ 5,500.00 (Single User License / Electronic Delivery)

If you want to order Corporate License or Hard Copy, please, contact our Customer Service:

[info@marketpublishers.com](mailto:info@marketpublishers.com)

## Payment

To pay by Credit Card (Visa, MasterCard, American Express, PayPal), please, click button on product page <https://marketpublishers.com/r/UE1EDFC05A27EN.html>

To pay by Wire Transfer, please, fill in your contact details in the form below:

First name:  
Last name:  
Email:  
Company:  
Address:  
City:  
Zip code:  
Country:  
Tel:  
Fax:  
Your message:

**\*\*All fields are required**

Customer signature \_\_\_\_\_

Please, note that by ordering from marketpublishers.com you are agreeing to our Terms & Conditions at <https://marketpublishers.com/docs/terms.html>

To place an order via fax simply print this form, fill in the information below



and fax the completed form to +44 20 7900 3970