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Global Radar Signal Processor Chip Market 2026 by Manufacturers, Regions, Type and Application, Forecast to 2032

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Abstracts

According to our (Global Info Research) latest study, the global Radar Signal Processor Chip market size was valued at US$ 4507 million in 2025 and is forecast to a readjusted size of US$ 9802 million by 2032 with a CAGR of 11.7% during review period.

The global shipment volume of radar signal processing chips exceeded 480 million units worldwide.Radar signal processing chips are specialized semiconductor devices designed for radar echo acquisition, filtering, FFT processing, beamforming, target detection, velocity and distance calculation, angle estimation, and environmental perception. The market mainly includes Radar DSPs, Radar SoCs, millimeter-wave radar processors, FPGA-based radar processing platforms, and AI-enhanced edge radar processing chips. The research scope primarily covers automotive 77GHz/79GHz radar systems, industrial millimeter-wave sensing, aerospace radar systems, defense phased-array radar, drone sensing radar, and security monitoring applications. These chips are commonly manufactured using RFCMOS, CMOS, SiGe BiCMOS, and advanced FinFET process technologies, integrating DSP cores, MCUs, NPUs, AI accelerators, high-speed ADCs, beamforming engines, and high-bandwidth interfaces. Key functions include multi-target tracking, object recognition, real-time environmental sensing, and high-resolution radar imaging. Driven by autonomous driving, 4D imaging radar adoption, industrial intelligent sensing, and defense electronics modernization, radar signal processing chips are rapidly evolving toward higher integration, stronger computing capability, lower power consumption, and AI-oriented architectures.

The global Radar Signal Processor Chip industry entered a new stage in 2025 characterized by automotive-electronics-driven demand, AI-oriented technology upgrades, and regional supply chain restructuring. Automotive millimeter-wave radar

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remains the largest demand source, while the penetration of ADAS and L2+/L3 autonomous driving systems continues to accelerate demand for 77GHz and 79GHz Radar SoCs. In particular, 4D imaging radar has become one of the most important upgrade directions in the industry. From a product roadmap perspective, highly integrated Radar SoCs are gradually replacing traditional discrete DSP architectures, while AI acceleration, beamforming capability, multi-target recognition, and edge perception performance are becoming key competitive factors. As autonomous driving systems require higher-resolution sensing and real-time environmental perception, radar processing chips are evolving toward higher computing performance, lower power consumption, and stronger edge intelligence.From the supply-side perspective, the global market is still dominated by leading semiconductor companies from North America, Europe, and Japan, which maintain strong advantages in automotive-grade qualification, millimeter-wave integration, radar algorithms, and customer validation cycles. However, Chinese domestic Radar SoC suppliers are rapidly entering mass production, particularly in automotive radar, industrial sensing, robotics perception, and intelligent security applications. At the same time, regional supply chain diversification is accelerating, with automotive OEMs increasingly promoting secondary sourcing strategies to reduce geopolitical and supply-chain risks.From an industry development perspective, investment activities are increasingly focused on 4D imaging radar, AI-enabled radar processors, edge fusion perception platforms, and high-frequency millimeter-wave solutions. Strategic partnerships, mergers and acquisitions, and software-hardware integration are becoming common approaches to strengthen system-level competitiveness. In addition to automotive applications, industrial automation, unmanned systems, smart transportation, and low-altitude economy applications are expanding the demand base for radar processing technologies. The market is therefore expected to maintain double-digit growth during the forecast period, with high-performance automotive Radar SoCs and AI-enhanced edge radar processing platforms becoming the primary growth drivers.

This report is a detailed and comprehensive analysis for global Radar Signal Processor Chip market. Both quantitative and qualitative analyses are presented by manufacturers, by region & country, by Frequency Band and by Application. As the market is constantly changing, this report explores the competition, supply and demand trends, as well as key factors that contribute to its changing demands across many markets. Company profiles and product examples of selected competitors, along with market share estimates of some of the selected leaders for the year 2025, are provided.

Key Features:

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Global Radar Signal Processor Chip market size and forecasts, in consumption value ($ Million), sales quantity (Million Units), and average selling prices (US$/Unit), 2021-2032

Global Radar Signal Processor Chip market size and forecasts by region and country, in consumption value ($ Million), sales quantity (Million Units), and average selling prices (US$/Unit), 2021-2032

Global Radar Signal Processor Chip market size and forecasts, by Frequency Band and by Application, in consumption value ($ Million), sales quantity (Million Units), and average selling prices (US$/Unit), 2021-2032

Global Radar Signal Processor Chip market shares of main players, shipments in revenue ($ Million), sales quantity (Million Units), and ASP (US$/Unit), 2021-2026

The Primary Objectives in This Report Are:

To determine the size of the total market opportunity of global and key countries

To assess the growth potential for Radar Signal Processor Chip

To forecast future growth in each product and end-use market

To assess competitive factors affecting the marketplace

This report profiles key players in the global Radar Signal Processor Chip market based on the following parameters - company overview, sales quantity, revenue, price, gross margin, product portfolio, geographical presence, and key developments. Key companies covered as a part of this study include NXP Semiconductors, Texas Instruments, Analog Devices, Infineon Technologies, STMicroelectronics, Renesas Electronics, Broadcom, Qualcomm, Microchip Technology, Mitsubishi Electric, etc.

This report also provides key insights about market drivers, restraints, opportunities, new product launches or approvals.

Market Segmentation

Radar Signal Processor Chip market is split by Frequency Band and by Application. For the period 2021-2032, the growth among segments provides accurate calculations and

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forecasts for consumption value by Frequency Band, and by Application in terms of volume and value. This analysis can help you expand your business by targeting qualified niche markets.

Market segment by Frequency Band

24GHz Radar Chip

60GHz Radar Chip

77GHz Radar Chip

79GHz Radar Chip

Others

Market segment by Hardware Platform

Application Specific Integrated Circuits (ASIC)

Field Programmable Gate Arrays (FPGA)

Digital Signal Processors (DSP)

Others

Market segment by Signal Processing Algorithm

Time Domain Processing Chips

Frequency Domain Processing Chips

Multidimensional Signal Processing Chips

Others

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Market segment by Application

- Automotive Industry
- Defense & Aerospace Industry
- Industrial Industry
- Consumer Electronics Industry
- Others

Major players covered

- NXP Semiconductors
- Texas Instruments
- Analog Devices
- Infineon Technologies
- STMicroelectronics
- Renesas Electronics
- Broadcom
- Qualcomm
- Microchip Technology
- Mitsubishi Electric
- Calterah
- ARCOMICRO

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Market segment by region, regional analysis covers

North America (United States, Canada, and Mexico)

Europe (Germany, France, United Kingdom, Russia, Italy, and Rest of Europe)

Asia-Pacific (China, Japan, Korea, India, Southeast Asia, and Australia)

South America (Brazil, Argentina, Colombia, and Rest of South America)

Middle East & Africa (Saudi Arabia, UAE, Egypt, South Africa, and Rest of Middle East & Africa)

The content of the study subjects, includes a total of 15 chapters:

Chapter 1, to describe Radar Signal Processor Chip product scope, market overview, market estimation caveats and base year.

Chapter 2, to profile the top manufacturers of Radar Signal Processor Chip, with price, sales quantity, revenue, and global market share of Radar Signal Processor Chip from 2021 to 2026.

Chapter 3, the Radar Signal Processor Chip competitive situation, sales quantity, revenue, and global market share of top manufacturers are analyzed emphatically by landscape contrast.

Chapter 4, the Radar Signal Processor Chip breakdown data are shown at the regional level, to show the sales quantity, consumption value, and growth by regions, from 2021 to 2032.

Chapter 5 and 6, to segment the sales by Frequency Band and by Application, with sales market share and growth rate by Frequency Band, by Application, from 2021 to 2032.

Chapter 7, 8, 9, 10 and 11, to break the sales data at the country level, with sales quantity, consumption value, and market share for key countries in the world, from 2021 to 2026.and Radar Signal Processor Chip market forecast, by regions, by Frequency Band, and by Application, with sales and revenue, from 2027 to 2032.

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Chapter 12, market dynamics, drivers, restraints, trends, and Porters Five Forces analysis.

Chapter 13, the key raw materials and key suppliers, and industry chain of Radar Signal Processor Chip.

Chapter 14 and 15, to describe Radar Signal Processor Chip sales channel, distributors, customers, research findings and conclusion.

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Table 136. Radar Signal Processor Chip Typical Customers

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