

Global Onboard Data Processors Supply, Demand and Key Producers, 2026-2032

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Abstracts

The global Onboard Data Processors market size is expected to reach \$ 12205 million by 2032, rising at a market growth of 9.6% CAGR during the forecast period (2026-2032).

In 2025, the global onboard data processor market records an annual production volume of approximately 48 million units against a total installed production capacity of around 62 million units per year, with average unit price USD 130, while leading manufacturers typically achieve gross margins of roughly 41%. Onboard Data Processors are embedded computing units installed directly within vehicles to collect, preprocess, analyze, and manage data locally from multiple sensors, control systems, and communication modules, enabling real-time decision-making with low latency and reduced reliance on cloud connectivity. Their supply chain begins upstream with semiconductor IP providers and core component suppliers (CPU/GPU/NPU architectures, memory, power management ICs), followed by wafer fabrication and packaging by foundries and OSATs; midstream players include chipset designers, module and board manufacturers, and firmware/operating system developers that integrate processing hardware with software stacks; downstream, Tier-1 system integrators and OEMs embed these processors into vehicles, with final deployment supported by testing, certification, and lifecycle services such as software updates and cybersecurity maintenance.

This report studies the global Onboard Data Processors production, demand, key manufacturers, and key regions.

This report is a detailed and comprehensive analysis of the world market for Onboard Data Processors and provides market size (US\$ million) and Year-over-Year (YoY)

Growth, considering 2025 as the base year. This report explores demand trends and competition, as well as details the characteristics of Onboard Data Processors that contribute to its increasing demand across many markets.

Highlights and key features of the study

Global Onboard Data Processors total production and demand, 2021-2032, (K Units)

Global Onboard Data Processors total production value, 2021-2032, (USD Million)

Global Onboard Data Processors production by region & country, production, value, CAGR, 2021-2032, (USD Million) & (K Units), (based on production site)

Global Onboard Data Processors consumption by region & country, CAGR, 2021-2032 & (K Units)

U.S. VS China: Onboard Data Processors domestic production, consumption, key domestic manufacturers and share

Global Onboard Data Processors production by manufacturer, production, price, value and market share 2021-2026, (USD Million) & (K Units)

Global Onboard Data Processors production by Type, production, value, CAGR, 2021-2032, (USD Million) & (K Units)

Global Onboard Data Processors production by Application, production, value, CAGR, 2021-2032, (USD Million) & (K Units)

This report profiles key players in the global Onboard Data Processors market based on the following parameters - company overview, production, value, price, gross margin, product portfolio, geographical presence, and key developments. Key companies covered as a part of this study include NVIDIA, Intel, Qualcomm, NXP Semiconductors, Renesas, Texas Instruments, Infineon, STMicroelectronics, ON Semiconductor, Analog Devices, etc.

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

Stakeholders would have ease in decision-making through various strategy matrices

used in analyzing the World Onboard Data Processors market

Detailed Segmentation:

Each section contains quantitative market data including market by value (US\$ Millions), volume (production, consumption) & (K Units) and average price (US\$/Unit) by manufacturer, by Type, and by Application. Data is given for the years 2021-2032 by year with 2025 as the base year, 2026 as the estimate year, and 2027-2032 as the forecast year.

Global Onboard Data Processors Market, By Region:

United States

China

Europe

Japan

South Korea

ASEAN

India

Rest of World

Global Onboard Data Processors Market, Segmentation by Type:

CPU Based Processors

GPU Based Processors

NPU Based Processors

FPGA Based Processors

Global Onboard Data Processors Market, Segmentation by Compute Performance:

Low Performance (1 TOPS)

Global Onboard Data Processors Market, Segmentation by Application:

Fuel Vehicles

Electric Vehicles

Hybrid Vehicles

Companies Profiled:

NVIDIA

Intel

Qualcomm

NXP Semiconductors

Renesas

Texas Instruments

Infineon

STMicroelectronics

ON Semiconductor

Analog Devices

Microchip

Telechips

Black Sesame

Rockchip

AMD

Key Questions Answered:

1. How big is the global Onboard Data Processors market?
2. What is the demand of the global Onboard Data Processors market?
3. What is the year over year growth of the global Onboard Data Processors market?
4. What is the production and production value of the global Onboard Data Processors market?
5. Who are the key producers in the global Onboard Data Processors market?
6. What are the growth factors driving the market demand?

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