

Global Power Electronics Testing Market Size, By Offering (Testing Services, Equipment), By Device Type (Silicon Carbide, Gallium Nitride, Others), By Vertical (Industrial, Automotive, Aerospace, Others) and Regional Forecasts 2024-2032

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Abstracts

The global power electronics testing market is estimated to be valued at USD 5.17 billion in 2023 and is anticipated to grow at a robust CAGR of 10.2%. The increasing penetration of electric vehicles (EVs), adoption of renewable energy systems, and advancements in power semiconductors such as Silicon Carbide (SiC) and Gallium Nitride (GaN) drive the demand for power electronics testing solutions globally. These advancements necessitate rigorous testing methodologies to ensure safety, reliability, and compliance with stringent international standards, especially in the automotive, aerospace, and industrial sectors.

Power electronics systems are integral to energy conversion and management across diverse applications, including EVs, smart grids, and renewable energy infrastructures. The rise of industrial automation, coupled with the adoption of Industry 4.0 practices, amplifies the need for efficient and effective power electronics testing solutions. Testing services, particularly those addressing electromagnetic compatibility (EMC) and energy efficiency, dominate the market, ensuring seamless functionality in high-frequency and high-voltage environments.

The industrial sector showcases significant growth potential, as manufacturers increasingly rely on power electronics for optimizing operations and adhering to energy-efficiency regulations. Furthermore, as EV adoption accelerates, testing requirements for battery management systems, inverters, and charging networks are poised to surge. Europe, with its focus on clean energy adoption and EV expansion, is expected to hold

the second-largest market share, bolstered by stringent environmental regulations and carbon neutrality initiatives.

Major market players included in this report are:

SGS SA (Switzerland)

Bureau Veritas (France)

Intertek Group plc (UK)

Advantest Corporation (Japan)

Teradyne Inc. (US)

DEKRA (Germany)

T?V S?D (Germany)

National Instruments Corp. (US)

T?V Rheinland (Germany)

T?V NORD Group (Germany)

UL LLC (US)

Cohu, Inc. (US)

Rohde & Schwarz (Germany)

Keysight Technologies (US)

Chroma ATE Inc. (Taiwan)

The detailed segments and sub-segment of the market are explained below:

By Offering

Global Power Electronics Testing Market Size, By Offering (Testing Services, Equipment), By Device Type (Silic...

Testing Services

EMC Testing

Electrical Safety Testing

Energy Efficiency Testing

Radio Frequency Testing

Others

Equipment

Oscilloscopes

Power Analyzers

Signal Generators

Automated Test Equipment (ATE)

Others

By Device Type

Silicon Carbide (SiC)

Gallium Nitride (GaN)

Others

By Vertical

Automotive

Industrial

Aerospace and Defense

Renewable Energy

Consumer Electronics

Others

By Region

North America

U.S.

Canada

Europe

Germany

UK

France

Rest of Europe

Asia Pacific

China

Japan

India

South Korea

Rest of Asia Pacific

Rest of the World

Years Considered for the Study:

Historical Year: 2022

Base Year: 2023

Forecast Period: 2024 to 2032

Key Takeaways:

Market Estimates & Forecast for 10 years from 2024 to 2032.

Annualized revenue and regional-level analysis for each market segment.

Comprehensive analysis of key geographies, with country-level insights for major regions.

Competitive landscape including major players and strategic insights.

In-depth evaluation of emerging opportunities, market challenges, and growth factors.

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