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Global Low Power IC 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 Low Power IC Chip market size was valued at US$ 10063 million in 2025 and is forecast to a readjusted size of US$ 18764 million by 2032 with a CAGR of 9.3% during review period.

Low power IC chips refer to integrated circuit products designed to significantly reduce both operating and standby power consumption—while still fulfilling specific computing, control, communication, sensing, or storage functions—through methods such as low-power circuit design, advanced fabrication processes, dynamic voltage and frequency scaling, sleep/wake mechanisms, power gating, low-leakage process technologies, and hardware-software co-optimization. Their primary objective is to extend device battery life, minimize heat generation, and enhance energy efficiency under constraints such as limited battery capacity, thermal dissipation space, or power supply availability. These chips are commonly found in applications such as wearable devices, smartphones, IoT terminals, wireless sensors, smart home systems, medical electronics, automotive electronics, edge AI devices, Bluetooth/Wi-Fi communication modules, and portable consumer electronics.

The upstream segment of the low power IC chips industry chain primarily comprises EDA tools, IP cores, semiconductor materials, silicon wafers, photoresists, sputtering targets, specialty gases, packaging substrates, and testing equipment. The midstream segment encompasses chip design, wafer fabrication, packaging and testing, and module integration; product forms in this segment range from low-power MCUs, Bluetooth/Wi-Fi/NB-IoT communication chips, sensor chips, and power management chips to edge AI chips, wearable SoCs, and automotive-grade low-power control chips. The downstream segment involves applications in IoT terminals, smart wearables,

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smart home systems, medical electronics, mobile phone accessories, industrial sensors, automotive electronics, security equipment, and portable consumer electronics. The gross profit margin for low-power chips stands at approximately 48%.

In 2025, the average selling price of low power IC chips is projected to be $3 per unit, with sales volume reaching 3.26 billion units and total production capacity amounting to 4.65 billion units.

From the demand perspective, the core value of low power IC chips lies in 'extending battery life, reducing heat generation, and enhancing the intelligence capabilities of end devices.' Consequently, demand for these chips continues to grow across the Internet of Things (IoT), wearable devices, smart homes, medical electronics, industrial sensors, automotive electronics, and edge AI devices. In particular, BLE (Bluetooth Low Energy), low-power MCUs, low-power Wi-Fi modules, PMICs (Power Management ICs), and edge AI SoCs are emerging as foundational components for battery-powered and always-on devices.

From the supply and competitive landscape perspective, low power IC chips do not constitute a single, isolated market segment; rather, they span across MCUs, wireless connectivity SoCs, power management chips, sensor SoCs, and edge AI chips. Competition in this space centers not merely on the sophistication of manufacturing processes, but also encompasses architectural design, power management, wireless protocol stacks, analog/RF capabilities, sleep/wake-up mechanisms, software ecosystems, and customer certification capabilities. While standard MCUs and BLE chips face intense price competition—with their gross margins heavily influenced by inventory cycles and capacity fluctuations in mature manufacturing processes—products such as automotive-grade low-power MCUs, industrial-grade wireless SoCs, medical wearable chips, and low-power AI accelerators feature higher technical barriers and longer customer validation cycles, thereby commanding relatively better pricing and profit margins.

Regarding future development trends, low power IC chips are poised to evolve toward 'lower power consumption, higher integration, enhanced AI capabilities, and more secure connectivity.' Future products will increasingly integrate MCUs, wireless connectivity modules, PMICs, security modules, sensor interfaces, and NPU/AI acceleration units to meet the demands of end devices—such as smart wearables, AI-enabled headphones, smart glasses, medical monitoring systems, industrial predictive maintenance solutions, and smart home appliances—for miniaturization, extended battery life, and local real-time processing capabilities. The Medical IoT and wearable

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device sectors, in particular, require ultra-low-power edge AI chips to perform data processing locally; this approach reduces reliance on cloud infrastructure, minimizes latency, and enhances data privacy and security. Consequently, the future competitive focus for low-power chips will shift from merely offering a 'low unit price per chip' to prioritizing 'system-level energy efficiency, comprehensive hardware-software ecosystems, AI compute-to-power ratios, and adaptability to specific application scenarios.'

This report is a detailed and comprehensive analysis for global Low Power IC Chip market. Both quantitative and qualitative analyses are presented by manufacturers, by region & country, by Type 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:

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

Global Low Power IC 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 Low Power IC Chip market size and forecasts, by Type and by Application, in consumption value ($ Million), sales quantity (Million Units), and average selling prices (US$/Unit), 2021-2032

Global Low Power IC 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 Low Power IC Chip

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

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To assess competitive factors affecting the marketplace

This report profiles key players in the global Low Power IC 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 Texas Instruments, Microchip Technology, Silicon Labs, Ambiq, Analog Devices, STMicroelectronics, Nordic Semiconductor, Infineon, NXP, Renesas, etc.

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

Market Segmentation

Low Power IC Chip market is split by Type and by Application. For the period 2021-2032, the growth among segments provides accurate calculations and forecasts for consumption value by Type, 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 Type

Memory Chips

Analog Chips

Logic Chips

Market segment by Performance Level

Basic Low-Power Type

Mid-Performance Low-Power Type

High-Performance Low-Power Type

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Market segment by Supply Voltage

- Low-Voltage Low-Power Chips (?1.8 V)
- Standard Low-Power Chips (1.8–3.6 V)

Market segment by Application

- Internet of Things (IoT) Industry
- Automotive Electronics
- Industrial Control
- Others

Major players covered

- Texas Instruments
- Microchip Technology
- Silicon Labs
- Ambiq
- Analog Devices
- STMicroelectronics
- Nordic Semiconductor
- Infineon
- NXP
- Renesas

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ROHM

Toshiba

Sony Semiconductor Solutions

Epson

GigaDevice

Espressif

Telink Semiconductor

Bestechnic

Sino Wealth

Beken

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 Low Power IC Chip product scope, market overview, market

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estimation caveats and base year.

Chapter 2, to profile the top manufacturers of Low Power IC Chip, with price, sales quantity, revenue, and global market share of Low Power IC Chip from 2021 to 2026.

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

Chapter 4, the Low Power IC 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 Type and by Application, with sales market share and growth rate by Type, 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 Low Power IC Chip market forecast, by regions, by Type, and by Application, with sales and revenue, from 2027 to 2032.

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 Low Power IC Chip.

Chapter 14 and 15, to describe Low Power IC Chip sales channel, distributors, customers, research findings and conclusion.

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3 COMPETITIVE ENVIRONMENT: LOW POWER IC CHIP BY MANUFACTURER

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Table 176. Low Power IC Chip Typical Customers

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