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Global Millimeter-wave Low-noise Amplifier Supply, Demand and Key Producers, 2026-2032

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Abstracts

The global Millimeter-wave Low-noise Amplifier market size is expected to reach $ 1146 million by 2032, rising at a market growth of 8.9% CAGR during the forecast period (2026-2032).

In 2025, global sales of millimeter-wave low-noise amplifiers (LNAs) reached 720,000 units, with an average selling price of $850 per unit. A millimeter-wave LNA is an electronic device specifically designed for amplifying signals in the high-frequency millimeter-wave band (30 GHz to 300 GHz), widely used in communications, radar, satellites, wireless sensor networks, and deep space exploration. This device can effectively amplify signals at extremely high frequencies while maintaining a low noise figure, making it a crucial component of millimeter-wave systems. Its working principle involves amplifying the power of an input radio frequency signal while maintaining signal clarity for subsequent processing.

Upstream raw materials mainly include high-performance semiconductor materials (such as gallium nitride (GaN) and gallium arsenide (GaAs)) and high-frequency circuit components. The downstream supply chain primarily serves communication equipment manufacturers, aerospace companies, satellite communication companies, and research institutions. Global total production capacity is approximately 800,000 units per year, with an average industry gross margin of approximately 38%-45%, with higher gross margins for high-end customized products. Downstream consumption is largest in the communications sector, followed by aerospace and satellite, with the remainder used in radar and wireless sensor networks.

The future lies in developing towards higher frequency bands, smaller size, and higher integration, while integrating AI algorithms to improve noise suppression and signal

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processing capabilities. In terms of demand and business opportunities, with the advancement of 5G and future 6G network construction, the demand for millimeter-wave communication will increase significantly. Coupled with the driving force of emerging technologies such as the Internet of Things, intelligent transportation, and autonomous driving, millimeter-wave low-noise amplifiers have enormous market potential in the future, especially in intelligent and unmanned application scenarios, where they still have broad growth prospects.

Millimeter-wave low-noise amplifiers (LNAs), as core components of high-frequency communication and detection systems, are experiencing unprecedented market opportunities with the rapid development of 5G and future 6G communication networks. The high bandwidth of the millimeter-wave band gives it significant advantages in data transmission speed and system capacity, leading to a surge in demand for millimeter-wave LNAs in fields such as communications, radar, satellite, and aerospace. Especially in 5G network construction, millimeter-wave technology provides crucial support for high-speed, low-latency communication, making millimeter-wave LNAs an indispensable part of network infrastructure.

Furthermore, with the rise of emerging technologies such as the Internet of Things (IoT), autonomous driving, intelligent transportation, and high-precision radar systems, the application scenarios for millimeter-wave LNAs are constantly expanding. These technologies place higher demands on high-frequency signal processing capabilities, driving the demand for higher-performance, smaller, and lower-power millimeter-wave LNAs. Meanwhile, the future construction of 6G networks will significantly increase the use of the millimeter-wave band, further amplifying the market demand for millimeter-wave LNAs.

However, despite the broad market prospects for millimeter-wave LNAs, high cost, technological barriers, and stringent material requirements remain challenges to the development of this field. To meet market demand, companies need to increase investment in technological research and development, drive breakthroughs in integration and high-frequency technologies, and reduce production costs to satisfy the growing global demand. Therefore, millimeter-wave low-noise amplifiers not only play a crucial role in existing communication systems but will also play an increasingly important role in future communication technologies, smart devices, and automation systems.

This report studies the global Millimeter-wave Low-noise Amplifier production, demand, key manufacturers, and key regions.

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This report is a detailed and comprehensive analysis of the world market for Millimeter-wave Low-noise Amplifier 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 Millimeter-wave Low-noise Amplifier that contribute to its increasing demand across many markets.

Highlights and key features of the study

Global Millimeter-wave Low-noise Amplifier total production and demand, 2021-2032, (K Units)
Global Millimeter-wave Low-noise Amplifier total production value, 2021-2032, (USD Million)
Global Millimeter-wave Low-noise Amplifier production by region & country, production, value, CAGR, 2021-2032, (USD Million) & (K Units), (based on production site)
Global Millimeter-wave Low-noise Amplifier consumption by region & country, CAGR, 2021-2032 & (K Units)
U.S. VS China: Millimeter-wave Low-noise Amplifier domestic production, consumption, key domestic manufacturers and share
Global Millimeter-wave Low-noise Amplifier production by manufacturer, production, price, value and market share 2021-2026, (USD Million) & (K Units)
Global Millimeter-wave Low-noise Amplifier production by Type, production, value, CAGR, 2021-2032, (USD Million) & (K Units)
Global Millimeter-wave Low-noise Amplifier production by Application, production, value, CAGR, 2021-2032, (USD Million) & (K Units)

This report profiles key players in the global Millimeter-wave Low-noise Amplifier 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 Qualwave, Millimeter Wave Products, Mini-Circuits, QuinStar, Narda-MITEQ, Broadcom, MACOM, Chengdu Leader Microwave Technology Co.,Ltd., Talent Microwave, Chengchang, 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 Millimeter-wave Low-noise Amplifier market

Detailed Segmentation:

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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 Millimeter-wave Low-noise Amplifier Market, By Region:

United States

China

Europe

Japan

South Korea

ASEAN

India

Rest of World

Global Millimeter-wave Low-noise Amplifier Market, Segmentation by Type:

Ka Band

QV Band

E Band

W Band

Others

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Global Millimeter-wave Low-noise Amplifier Market, Segmentation by Interface Type:

Waveguide Interface

Coaxial Interface

Global Millimeter-wave Low-noise Amplifier Market, Segmentation by Encapsulation Type:

Surface Mount Technology (SMT)

Hermetically Sealed Metal Package

Global Millimeter-wave Low-noise Amplifier Market, Segmentation by Application:

Communications

Automotive Radar

Defense

Others

Companies Profiled:

Qualwave

Millimeter Wave Products

Mini-Circuits

QuinStar

Narda-MITEQ

Broadcom

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MACOM

Chengdu Leader Microwave Technology Co.,Ltd.

Talent Microwave

Chengchang

B&Z Technologies

Hengweiqi

Eravant

Spacek Labs, Incorporated

Key Questions Answered:

1. How big is the global Millimeter-wave Low-noise Amplifier market?
2. What is the demand of the global Millimeter-wave Low-noise Amplifier market?
3. What is the year over year growth of the global Millimeter-wave Low-noise Amplifier market?
4. What is the production and production value of the global Millimeter-wave Low-noise Amplifier market?
5. Who are the key producers in the global Millimeter-wave Low-noise Amplifier market?
6. What are the growth factors driving the market demand?

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