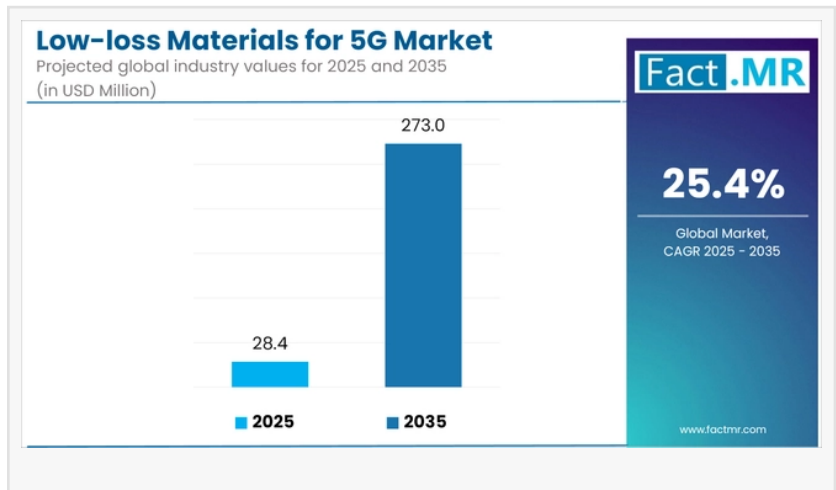


Low-loss Materials for 5G Market to Surge to USD 273.1 Million by 2035, Driven by 5G Network Expansion

Analysis of Low-loss Materials for 5G Market Covering 30+ Countries Including Analysis of US, Canada, UK, Germany, France, Nordics, GCC countries

ROCKVILLE, MD, UNITED STATES, July 9, 2025 /EINPresswire.com/ -- The Global [Low-loss Materials for 5G Market](https://www.factmr.com/connectus/sample?flag=S&rep_id=7577)

report projects exponential growth, expanding from USD 28.4 million in 2025 to USD 273.1 million by 2035, with a compound annual growth rate (CAGR) of 25.4%. This surge is driven by the global rollout of high-frequency 5G networks, particularly mmWave 5G, and increasing demand for advanced materials in telecommunications, automotive, and smart cities. The report provides actionable insights for stakeholders aiming to capitalize on the critical role of low-loss materials in enabling high-speed, low-latency connectivity.



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What Are the Key Market Insights?

The global low-loss materials for 5G market thrives due to the essential role of materials like PTFE laminates, liquid crystal polymers (LCPs), and modified polyimides in minimizing signal loss in high-frequency 5G infrastructure. These materials, used in antennas, printed circuit boards (PCBs), and base stations, ensure efficient data transmission at frequencies up to 100 GHz. The market is propelled by the rapid expansion of 5G networks, with over 144 networks launched globally by 2021 and millions of 5G smartphones in use. The automotive sector, particularly ADAS-equipped vehicles, and smart city projects, projected to involve 70% of global cities by 2030, drive demand for low-loss materials to support real-time data access. Challenges include regulatory uncertainties around PFAS materials like PTFE and high production costs, but innovations in hydrocarbon-based laminates and advanced ceramics are addressing these

concerns. East Asia leads with a 34.5% market share in 2022, driven by China's 5G infrastructure, while North America focuses on automotive and IoT applications.

What Are the Key Statistics and Forecasts?

The report forecasts the low-loss materials for 5G market to grow from USD 28.4 million in 2025 to USD 273.1 million by 2035, with a CAGR of 25.4%, creating an absolute dollar opportunity of USD 244.7 million. Substrate materials, including PTFE and LCPs, accounted for 81.7% of the market share in 2021 and continue to dominate due to their dielectric properties. The mmWave 5G segment, valued at USD 9.2 million in 2022, is expected to grow rapidly as high-frequency applications expand. East Asia, particularly China, holds a significant share, with a projected 47.5% of the East Asian market by 2034. North America, led by the U.S., is expected to reach USD 19.2 million by 2032, driven by telecom giants like AT&T and Verizon. The market's historical CAGR was 17.7% from 2017 to 2021, reflecting strong growth post-5G rollout. These projections align with global 5G adoption and smart infrastructure trends.

How Can Industries Benefit from the Report's Findings?

The report's insights are valuable across multiple industries. In telecommunications, low-loss materials enhance signal integrity in 5G base stations, antennas, and customer premise equipment (CPE), supporting high-speed connectivity for IoT and AR/VR applications. The automotive industry leverages these materials for ADAS and autonomous vehicles, ensuring reliable real-time data transmission. Smart city planners benefit from materials that enable scalable, high-frequency infrastructure for urban connectivity. Electronics manufacturers use low-loss materials in PCBs and RF components for 5G smartphones and wearables, meeting miniaturization demands. Businesses can leverage the report to innovate with PFAS alternatives, target high-growth regions like East Asia, and align with standards like 3GPP to enhance competitiveness and support 5G ecosystem growth.

What Are the Details of the Report and Publisher?

The Global Low-loss Materials for 5G Market report is built on a rigorous methodology, combining primary research through interviews with industry experts and secondary analysis of market trends and company reports. It covers market dynamics, competitive landscapes, and regional analyses across North America, Latin America, Europe, East Asia, South Asia & Oceania, and the Middle East & Africa. The report segments the market by material type (substrate materials, organic materials like PTFE and LCP, inorganic materials like ceramics, package materials), frequency (sub-6 GHz 5G, mmWave 5G), and end-use (smartphones, infrastructure, CPE).

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Who Are the Key Players?

The low-loss materials for 5G market is highly competitive, with leading companies driving innovation. DuPont de Nemours, Inc. leads with its PTFE-based laminates for mmWave applications. Rogers Corporation excels in high-frequency substrates for antennas and PCBs. Mitsubishi Electric Corporation focuses on advanced ceramics for base stations. Other notable players include SABIC, Kyocera Corporation, AGC Inc., and Panasonic Corporation, all investing in R&D to develop materials with superior dielectric properties and thermal stability, positioning themselves as leaders in the 5G ecosystem.

What Are the Recent Developments in the Market?

Recent advancements are shaping the low-loss materials for 5G market. In 2023, Rogers Corporation launched a new hydrocarbon-based laminate, offering a PFAS-free alternative with low passive intermodulation (PIM) for mmWave 5G. In December 2022, 3M announced plans to exit PFAS manufacturing by 2025, prompting industry shifts toward alternatives like hydrocarbon laminates. In 2024, DuPont introduced a next-generation LCP with enhanced thermal stability for 5G antennas. Regulatory debates, particularly in the EU and U.S., are pushing for PFAS restrictions, driving innovation in non-fluoropolymer materials. The rise of 5G fixed wireless access (FWA), projected to reach USD 300 billion by 2033

Conclusion:

The Global Low-loss Materials for 5G Market report offers a comprehensive guide for stakeholders navigating the 5G technology landscape. With a projected value of USD 273.1 million by 2035 and a 25.4% CAGR, the market is driven by the global rollout of mmWave 5G, automotive ADAS, and smart city initiatives, particularly in East Asia and North America. Innovations in PFAS alternatives and advanced substrates, alongside applications in smartphones, infrastructure, and CPE, position the market for sustained growth.

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