

# **Conductive & EMI Shielding Plastics For 5G & IoT Market Size, Share & Trends Analysis Report By Product (Conductive Polymers, Metal-Filled Plastics, Carbon-Based Plastics), By Application (Antennas & Base Stations), By Region, And Segment Forecasts, 2025 - 2030**

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## **Abstracts**

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### **Conductive & EMI Shielding Plastics For 5G & IoT Market Growth & Trends**

The global conductive & EMI shielding plastics for 5G & IoT market size is anticipated to reach USD 2.52 billion by 2030 and is anticipated to expand at a CAGR of 10.97% during the forecast period, according to a new report by Grand View Research, Inc. The conductive & EMI shielding plastics for 5G & IoT market is a critical segment within the advanced materials industry, driven by the increasing need for lightweight, high-performance shielding solutions in next-generation communication technologies. These plastics, formulated with metallic or carbon-based conductive additives, play a pivotal role in minimizing electromagnetic interference (EMI) and ensuring signal integrity in high-frequency applications. With the rapid expansion of 5G networks, IoT ecosystems, and edge computing infrastructure, demand for conductive polymers is surging across sectors such as telecommunications, consumer electronics, automotive, and aerospace. Unlike traditional metal shielding, these advanced polymer composites offer a superior combination of conductivity, design flexibility, and weight reduction, making them essential for modern electronic devices and network components.

One of the key drivers of market growth is the rising adoption of 5G-enabled devices

and smart connectivity solutions globally. As electronic devices become smaller, more complex, and densely integrated, the risk of electromagnetic interference increases, necessitating advanced shielding materials that can maintain high-speed data transmission while minimizing signal disruption. Additionally, ongoing innovations in conductive filler technology have led to the development of next-generation EMI shielding plastics with enhanced conductivity, thermal stability, and recyclability, catering to the evolving sustainability goals of the electronics industry. With governments and private enterprises investing heavily in 5G infrastructure and IoT expansion, the demand for high-performance conductive plastics is expected to accelerate, reinforcing their role as a cornerstone of the future digital economy.

The market players are focusing on various strategic initiatives such as mergers, acquisitions, and collaborations. For instance, in February 2024, Panasonic Industry Co., Ltd. launched commercial production of its ZL series conductive polymer hybrid aluminum electrolytic capacitors in February 2024. These capacitors, designed for electric vehicle ECUs, feature industry-leading high capacitance and heat resistance up to 135°C. The ZL series reduces current noise and stabilizes circuit voltage, crucial for vehicle electrification and advanced digitization.

#### Conductive & EMI Shielding Plastics For 5G & IoT Market Report Highlights

Based on product type, conductive polymers held the largest share, accumulating USD 785.6 million market size in 2024.

Based on application, antennas and base stations accounted for the largest share of 31.90% market size in 2024.

Asia Pacific dominated the recycling engineering plastics market. The rise of local semiconductor fabrication plants, supported by government incentives, is expanding the regional supply chain for shielding materials, allowing for cost-efficient production of next-gen 5G and IoT-enabled devices.

China was the leading manufacturer of recycling engineering plastics in the Asia Pacific region and captured around 44% of the revenue market share in 2024 in this region.

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