

Rising Microcontroller Use in Smart Systems and Healthcare Drives Market Growth

More and more microcontrollers are being used in smart grid systems, smart meters, cars, and healthcare. Global healthcare costs are increasing due to immunodeficiency disorders, aging population, and diseases like diabetes and high blood pressure. Therefore, the demand for electronic medical devices to measure blood pressure and sugar levels is growing. To meet this demand, companies are introducing medical equipment that is not only more affordable but also promises enhanced reliability.

**11.6%
CAGR***

Anticipated growth rate from 2023 to 2030.

**\$32.37
Billion**








The global microcontroller market size in 2023.

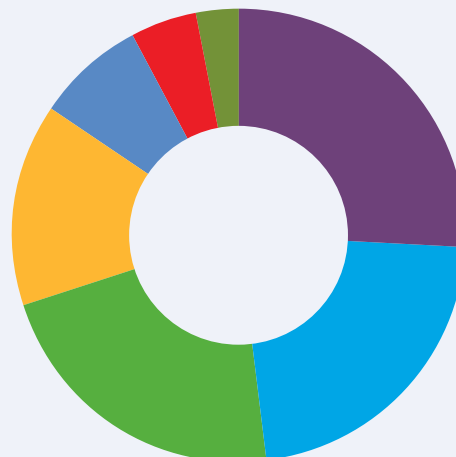
**\$69.87
Billion**

It's forecast to reach by 2030.

(Source: Grand View Research [1]) *Compound Annual Growth Rate

Global Microcontroller Market Share 2023 (By Application)

-  Consumer Electronics & Telecom
-  Automotive
-  Embedded Systems
-  Industrial
-  Medical Devices
-  Aerospace & Defense
-  Other



(Source: Grand View Research [1])



Emerging Trends in Test and Measurement

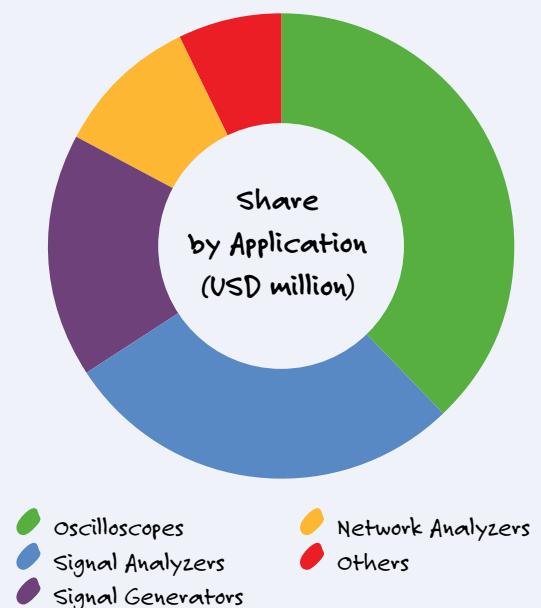
The research done by Acumen [2], Markets and Markets [3] and PR Newswire [4] shows that the market for test and measurement solutions is on the rise, driven by the increasing demand for new consumer technologies such as 5G, IoT, and autonomous vehicles. These technologies require advanced testing to meet regulatory standards. Challenges persist in antenna array calibration and complexity, crucial for reliable performance in innovative antennas. The rise of MIMO in 5G NR technology necessitates enhanced test and measurement equipment for evaluating radiation patterns, particularly in antenna arrays, to optimize performance and energy consumption.

Industries like semiconductors, healthcare, electric vehicles and telecommunications emphasize the importance of higher performance and more portable test equipment. The latest trends include greater networking capabilities, precision, and reliability in instruments. Wearable devices like smartwatches collect data for precision medicine, enhancing treatment accuracy. In the EV sector, testing extends to charging interfaces and systems, increasing demand for battery and vehicle performance testing. Research and development activities across various sectors also contribute to the demand for advanced measurement solutions for prototyping, characterization, and validation of new technologies and products. Moreover, there is a shift towards software-defined and cloud-based test solutions that offer flexibility, scalability, and remote accessibility.

5G Testing Equipment: Oscilloscope Segment Growth

The oscilloscope segment, used to display and analyze electronic signals, is expected to grow significantly [5]. These devices graph signal voltage over time and analyze properties like amplitude and frequency. Valued at USD \$334.90 million in 2018, digital oscilloscopes measure 5G signals using analog-to-digital converters and attenuators. These factors drive segment growth and market expansion.

5G Testing Equipment Market



(Source: Technavio [5])

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WEB LINKS

- [1] Grand View Research, "Microcontroller Market Size, Share & Growth Report, 2030," 2023: <https://www.grandviewresearch.com/industry-analysis/microcontroller-market>
- [2] Acumen, "Test and Measurement Equipment Market Size — Global Industry, Share, Analysis, Trends and Forecast 2023–2032," March 2023: <https://www.acumenresearchandconsulting.com/test-and-measurement-equipment-market>
- [3] Markets and Markets, "Test and Measurement Equipment Market," May 2023: <http://tinyurl.com/test-equipment-market>
- [4] PR Newswire, "Test and Measurement Market 2023-2027," January 2023: <http://tinyurl.com/test-and-measurement-market>
- [5] Technavio, "5G Testing Equipment Market Analysis," November 2023: <http://tinyurl.com/5g-testing-equipment-market>