

Wireless Testing Market - Growth, Trends, Covid-19 Impact, and Forecasts (2023 - 2028)

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Report description:

The wireless testing market is expected to register a CAGR of 6.2% during the forecast period. Wireless technology has evolved to communicate voice, data, and video worldwide over the years. Additionally, the emergence of machine-to-machine communication and IoT sensors connected to the internet for full-time access has driven the demand in the wireless testing market.

Key Highlights

Wireless testing assesses products' real-time performance and functionality consisting of wireless technologies such as Bluetooth, WiFi, and cellular connectivity. Wireless technology has evolved to communicate voice, data, and video globally over the years. Additionally, the emergence of machine-to-machine communication and IoT sensors connected to the internet for full-time access has driven the demand for the wireless testing market.

Over the past few years, IoT has caused a tremendous shift in the field of electronic design, with processors and wireless components now finding their way into analog technology. As this shift introduces a new level of complexity into the design process, test equipment has followed the trend, rising to new heights of customization and integration.

Different jurisdictions around the globe require manufacturers to comply with codes and regulations regarding how their wireless products function for security, health, and safety purposes. Third-party conformity assessments also help to strengthen the manufacturer's competitive position in the market.

There is an increasing market of devices that use different types of wireless technologies, such as radio signals and wireless power transfer (WPT). Government standards regulate the radiation of electromagnetic fields in most international markets, including the European Union, the United States, Canada, Australia, and Japan. This applies to both radio and WPT devices. In November 2021, the Department of Telecommunications (DoT) granted Reliance Jio Infocomm, Bharti Airtel, and Vodafone Idea a six-month extension to perform 5G trials. Due to this extension, the carriers would conduct 5G experiments until May 2022.

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Initially, telcos were given until November 26, 2021, to test 5G technology. In May, the DoT awarded a 5G trial spectrum for six months in the 700 MHz, 3.5 GHz, and 26 GHz bands, paving the way for local carriers to partner and develop 5G use cases. By technology, 5G is expected to dominate the market since second-generation versions of 5G chips are making their way into products, increasing the sale of 5G-enabled smartphones. This growth is primarily driven by an aggressive 5G build-out in China using the mid-band spectrum.

All businesses globally with crucial assets for manufacturing goods and services have been experiencing a rapid decline due to the COVID-19 pandemic. The management of such companies has been feeling extreme urgency and panic, putting more emphasis on cutting costs. Since manufacturing activity is low, companies are tempted to eliminate maintenance, resulting in high prices in the future.?

Wireless Testing Market Trends

IT and Telecommunication Segment to Witness Significant Growth

In the recent past ten years, the telecommunication industry witnessed a growth in the number of cellular network subscriptions globally. Additionally, innovation is moving toward faster and more actively responsive connections. Therefore, testing equipment is increasingly needed in these domains, starting at the design stage to testing and validating the design and at the R&D stage for performing pre-conformance testing, manufacturing built-to-test, and optimizing the performance of the deployed network with the cellular network.

LTE is one of the most popular wireless technologies globally, with the highest number of deployments. Due to the evolution of LTE-A and LTE-A Pro (LTE Advanced and LTE Advanced Pro) for offering higher bandwidth range and multi-gigabyte data rates, the vendors are increasingly using these wireless testers for optimizing LTE performance to 4.9G.

Manufacturers of mmWave 5G products are experimenting with an optimal mix of tests performed in different stations in the factory vs. yield and takt time on the line. They are applying multi-device parallel test techniques to improve manufacturing economics.

In October 2021, Movandi, a prominent player in new 5G millimeter-wave (mmWave) technology, announced the test drive results showing how 5G mmWave can deliver optimum performance in a moving automobile when Movandi BeamXR powered smart repeater with Movandi BeamX cloud software control, machine learning, and artificial intelligence (AI) are combined. This test in a moving vehicle demonstrated the ability of the high frequencies and cloud intelligence to provide a high quality of service and multi-gigabit per second downlink speeds in challenging mobile environments.

According to Ericsson, as of 2021, there were approximately 664 million active 5G subscriptions. This figure is expected to increase more than sixteen-fold in five years when forecasts show there will be close to 4.39 billion active 5G subscriptions.

In terms of 5G, the network is rapidly gaining traction in the telecommunication industry due to its capability to enhance massive machine-to-machine communication with extremely low latency. Additionally, the 5G device manufacturers must comply with the latest 5G NR compliance, further driving the industry's demand for a wireless tester. According to 5G Americas, the number of 5G subscribers is estimated to increase from 0.7 million to 1.3 billion by 2023. This is determined to drive the studied market's growth.

North America to Witness the Largest Market Share

The growing demand for wireless technology in the automotive industry has also surged the need for wireless testing. Spectrum analyzers are highly being used to meet automotive radar test requirements. The spectrum analyzer is ideal equipment on the production floor for these high-frequency applications. Housing, the region's most prominent global automotive players (13 major

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automotive manufacturers), and wireless testing vendors (Keysight, Viavi, and EXFO, among others) are expected to emerge as a source of innovation and are estimated to hold a significant market share.

The automotive industry is expected to witness significant growth in terms of application. Generally, spectrum analyzers are used to meet automotive radar test requirements. Additionally, heightened road safety requires precise verification of the automotive radar systems. In 2021, according to BEA, the automotive industry in the United States sold approximately 14.9 million light vehicle units. This figure includes retail sales of about 3.3 million autos and just under 11.6 million light truck units.

In September 2022, researchers in Idaho opened the nation's first open-air, 5G wireless test range focused exclusively on security testing, training, and technology development. Located across the US Department of Energy's 890-square mile Idaho National Laboratory Site, the range is outfitted with state-of-the-art commercial cellular equipment, including 5G radios, antennas, base stations, and a computerized core network. The spectrum-agile range is the first to be opened at a national laboratory.

In August 2022, the United States Department of Defense Innovation Beyond 5G (IB5G) Program recently started three new projects that continue to advance DoD collaborative partnerships with industry and academia for 5G-to-NextG wireless technologies. The DoD (Department of Defense) is interested in promoting 5G-to-NextG wireless technologies and concept demonstrations.

Wireless Testing Market Competitor Analysis

The wireless testing market is very competitive in nature. Some of the significant players in the market are SGS Group, Bureau Veritas SA, Intertek Group PLC, Dekra SE, Anritsu Corporation, Keysight Technologies, Rohde & Schwarz GmbH & Co. KG, Viavi Solutions, and many more. The companies are increasing the market share by forming multiple partnerships and investing in introducing new services to earn a competitive edge during the forecast period.

September 2022 - SGS partnered with Korea Testing Certification Institute (KTC), a global-class testing and certification agency in electrical safety and electromagnetic compatibility (EMC). Both organizations focused on customer satisfaction, product reliability, and technological competitiveness in the wireless and EMC, software and information security, and e-mobility sectors. The collaboration improved the testing and certification process for brands, manufacturers, retailers, and governments and helped facilitate cooperation and trade between Singapore and South Korea.

September 2022 - Dekra partnered with Wi-Fi Alliance. In the future, manufacturers can have authorized Wi-Fi CERTIFIED testing for the products. The regional focus of the new ATL (Authorized Test Laboratory) is on the automotive and industrial IoT markets. Wi-Fi-certified interoperability testing helps ensure high-quality products are deployed in growing markets like automotive and industrial IoT.

Additional Benefits:

The market estimate (ME) sheet in Excel format
3 months of analyst support

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