

Scoop

THE LATEST TRENDS, SERVICES & PROMOTIONS

ELECTRICAL & ELECTRONICS

MARCH 2024

Optimize Your IoT Devices with **Regulatory Radio Testing**



Wireless IoT devices had been operating for years and can easily be installed anywhere via different types of wireless connectivity. New applications can mean that these devices have to be used in very difficult RF environments.

The RF performance of IoT devices wireless connections is a crucial factor for the success of IoT applications. Otherwise, there could be a direct impact on critical performance parameters like reliability, power consumption, latency, and coverage.

What Is Regulatory Radio Testing?

Regulatory radio testing is a process designed to evaluate and ensure that electronic devices comply with the regulations and standards set by government authorities and international bodies regarding radio frequency (RF) emissions and wireless communication. This testing is crucial to confirm that products meet specific requirements related to electromagnetic compatibility (EMC), radio frequency interference, and spectrum utilization.

Why Regulatory Radio Testing Matters:

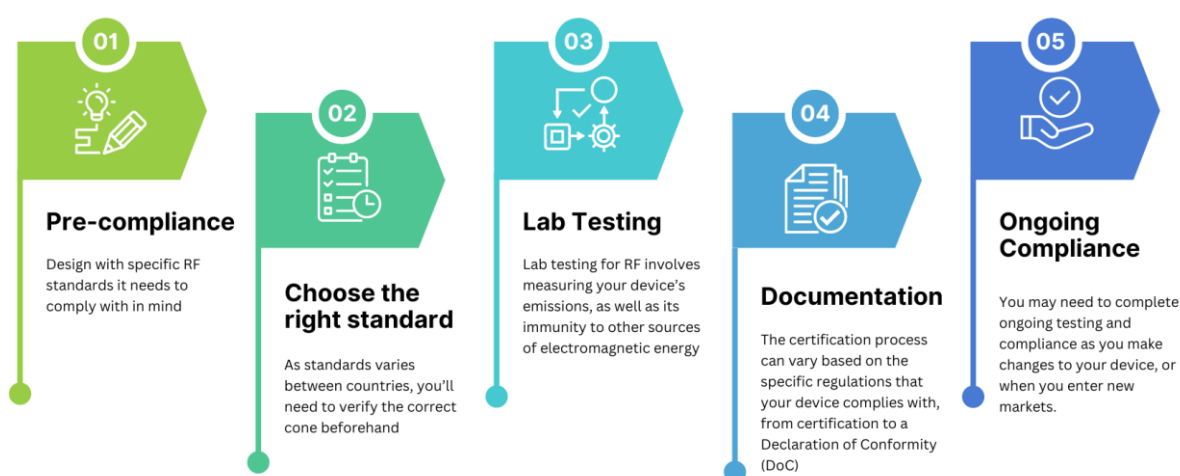
Regulatory radio testing plays a pivotal role in guaranteeing the flawless operation and legal adherence of radio frequency (RF) devices and equipment. It verifies that these devices operate within defined frequency bands, power levels, and other specifications set forth by regulatory authorities.

Which Products Require Radio Testing?

Radio testing is a crucial step in the development and manufacturing of any product that utilizes wireless technology. This testing ensures that the product complies with regulatory requirements and operates safely and effectively within the designated radio frequency spectrum.

POPULAR PRODUCTS THAT REQUIRE RADIO TESTING TYPICALLY INCLUDE THOSE THAT USE THE FOLLOWING TECHNOLOGIES:

Wi-Fi (WLAN)	Wi-Fi routers, access points, and Wi-Fi-enabled devices such as smartphones, laptops, and tablets
Bluetooth®	Wireless headphones, speakers, keyboards, mice, and fitness trackers
Ultra-Wideband (UWB)	Emerging technology used in high-speed data transfer applications
RFID	Used in tracking and identification systems, such as contactless payment cards and asset tracking tags
5G	The latest generation of cellular network technology
Short Range Devices (SRD)	Devices with low power consumption and limited range, such as garage door openers and wireless toys

How does it work?


As the global benchmark for safety, quality, and integrity, SGS' comprehensive services are tailored to ensure proper function, regulatory compliance, and consumer satisfaction, including:

- Conducted emission
- Radiated immunity
- Radiated emission
- Bulk current injection (BCI)
- Magnetic field immunity
- Magnetic field emission
- Conducted transient immunity
- Conducted transient emission
- Mobile phone (handy transmitter) test
- Electrical fast transients
- Electrical surge
- Harmonics and flickers measurements
- Electrostatic discharge (ESD)
- Human exposure measurements of electric and magnetic field

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