



# IoT (INTERNET OF THINGS) – STAY CONNECTED

## TECHNOLOGY TESTING AND CERTIFICATION SERVICES

Through the Internet of Things (IoT), sensors and actuators embedded in physical objects—from roadways to pacemakers—are linked through wired and wireless networks, often using the same Internet Protocol (IP) that connects the Internet. As objects become embedded with sensors and gain the ability to communicate, the new information networks promise to create new business models, improve business processes, and reduce costs and risks. SGS is committed to respond to testing and certification requirements arising from the introduction of new product lines and technologies in the wireless communication market.

### INTERNET OF THINGS

IoT networks churn out huge volumes of data that flow to computers for analysis. What’s revolutionary in all this is that these physical information systems are now beginning to be deployed, and some of them even work largely without human intervention.

IoT services also serve to facilitate the introduction of new wireless communication methods in a wider spectrum of frequencies.

Currently, SGS has IoT testing capabilities in the following areas, and is constantly accumulating IoT test knowledge in each field.

### REGULATORY TESTING

As new IoT technologies develop and are applied to various services and solutions, SGS is investing in its global

network of testing facilities to be able to offer regulatory certifications for all major markets.

IoT TECHNOLOGIES	FCC	CE
NB-IoT / CAT M1	CFR 47 Part 22 CFR 47 Part 24 CFR 47 Part 27	EN 301 511 EN 301 908-1 EN 301 908-2 EN 301 908-13
LoRa / Sigfox	CFR 47 Part 15.249	EN 300 220
Z-wave	CFR 47 Part 15.249	EN 300 220
Zigbee	CFR 47 Part 15.247	EN 300 328

## CONNECTIVITY

### Wi-Fi ALLIANCE



Wi-Fi technology is ready today to connect billions of IoT devices to each other, to the internet, and to the billions of consumer electronics and computing devices already in use. Wi-Fi's security, inter-operability, and long-standing commitment to legacy inter-operability make it an ideal platform for innovation – unlocking the limitless potential of the Internet of Things.

### BLUETOOTH SIG



Bluetooth® Low Energy (LE) enables short-burst wireless connections and supports multiple network topologies, including a mesh topology for establishing many-to-many (m:m) device communications. Bluetooth mesh is optimised for creating large-scale device networks and is ideally suited for building automation, sensor network and asset tracking solutions. Only Bluetooth mesh networking brings the proven, global inter-operability and mature, trusted ecosystem associated with Bluetooth technology to the creation of industrial-grade device networks.

### NFC FORUM



NFC technology offers a simple, easy way for consumers and businesses to be connected. Embedding NFC in a product opens a discussion and ongoing engagement with consumers. It's fast, easy and most importantly, it works. This notion of NFC as IoT-ready goes beyond using a smartphone to make a purchase but includes all IoT and NFC-enabled devices used in public transport, automotive, medical and industrial applications.

### IoT STANDARDISATION

SGS is currently participating as an active member of the IoT certification group, such as the OCF, Thread Group and LoRa alliance, contributing to participate in the certification programme. These new IoT technologies will greatly contribute to the enhancement of future IoT network technologies and will play a major role in verifying compatibility with more diverse consumer products.

## HEALTHCARE & SECURITY

### CONTINUA

The PCHalliance publishes and promotes the global adoption of the Continua Design Guidelines (CDG), an open framework implementation guide for user-friendly, secure and interoperable health data exchange in personal connected health. The Continua Design Guidelines are recognised by the United Nations International Telecommunication Union (ITU-T) as the international standard for safe, secure, and reliable exchange of data to and from personal health devices.

### GLOBALPLATFORM(GP)

GlobalPlatform's role in the IoT market is as a provider of open standard technical specifications that improve the inter-operability and security of these connected devices. GlobalPlatform Specifications like the Trusted Execution Environment (TEE), The security domain (SD) and the Secure Element (SE), resolve address the privacy and security concerns in the IoT market. In particular, GlobalPlatform will be of particular value to professionals in industries such as healthcare, automotive, wearable devices and energy.



### WHY SGS?

SGS is the world's leading inspection, verification, testing and certification company. SGS is recognised as the global benchmark for quality and integrity. With more than 90,000 employees, SGS operates a network of over 2,000 offices and laboratories around the world.

With a global presence, we have a history of successfully executing large-scale, complex international projects. Our people speak the language, understand the culture of the local market and operate globally in a consistent, reliable and effective manner.

**TO LEARN HOW SGS CAN HELP YOU TO KEEP YOUR HEALTH SOFTWARE SAFE, VISIT [WWW.SGS.COM/EE](http://WWW.SGS.COM/EE) OR CONTACT [EE.GLOBAL@SGS.COM](mailto:EE.GLOBAL@SGS.COM) FOR MORE INFORMATION.**

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