



Electrical Safety & Radiation  
Assessment For Electrical &  
Electronic Products

Developing the highest quality electrical and electronic goods that are safe and energy efficient is a complex challenge in today's competitive market. Through our global network of accredited testing laboratories, our specialized teams of local experts offer a range of services to manufacturers and retailers in the electronics industry.

### **FIXED ELECTRICAL INSTALLATIONS**

On June 10th, 2020, SGS Hong Kong is registered by EMSD as an official contractor to Periodic Testing for Fixed Electrical Installations. A periodic inspection will:

- Reveal if any of your electrical circuits or accessories are overloaded;
- Find any potential electric shock risks and fire hazards;
- Identify any defective electrical work;
- Highlight any lack of earthing or bonding

Safety tests are carried out on wiring and fixed electrical accessories. A schedule of circuits is also provided, which is invaluable for a property. After inspection, testing and repair, the registered electrical contractor and worker shall issue a Periodic Test Certificate to confirm that the electrical installation is safe and complies with the statutory safety requirements. The owners of the electrical installation shall submit the Periodic Test Certificate (WR2) to EMSD for endorsement. After that, they should properly retain the certificate for future inspection by EMSD.

### **FIELD STRENGTH MEASUREMENT**

Low and high frequency EMFs affect the human body in different ways and it will not occur in most day to day work situations  
Symptoms of EMF exposure: Sleep disturbance, headache, tiredness, changes in memory, depression, lack of concentration etc.

### **NIR LIMITS**

The health protection standards specified are laid down in the ICNIRP guidelines. According to the ICNIRP guidelines, the limits of NIR levels applicable to Radio frequency devices are as follows:

- Reference levels for general public exposure in the frequency range 0.15MHz – 300 GHz to time-varying electric and magnetic fields (unperturbed rms values)



## MOBILE NETWORK SCANNING

Nowadays, most of the device contains wireless / IoT feature. In the near future, traditional water, gas and electricity meters will be changed to NB-IOT meters for easier access and monitoring as real-time data can be transmitted to the providers' Cloud systems through their data network. Currently, mobile network coverage is a significant issue for the IoT users where they want the carrier providers to extend their mobile network capability and coverage in different locations and learn about the true quality that they receive during voice, video, data and other services. Since there are different multi-band and multi-technologies in different public areas (5G FR1 FR2, LTE, WCDMA, GSM, TETRA, NB-IOT, LTE-M1, Wifi etc), verifying the coverage in different locations is a must for carrier providers by identifying which mobile network is stable and capable in the tested area as well as identifying the internal and external interference problems and detect the problems with low performance (low throughput). SGS can assist in identifying the best mobile network and providing solutions before installing any IoT devices.

### COMMON CONCERNS:

- Public utility providers: Coverage of mobile network before NB-IoT meter installation
- Hospitals: Effects on medical equipment from mobile signals
- Shopping mall: Wi-Fi coverage on their premises

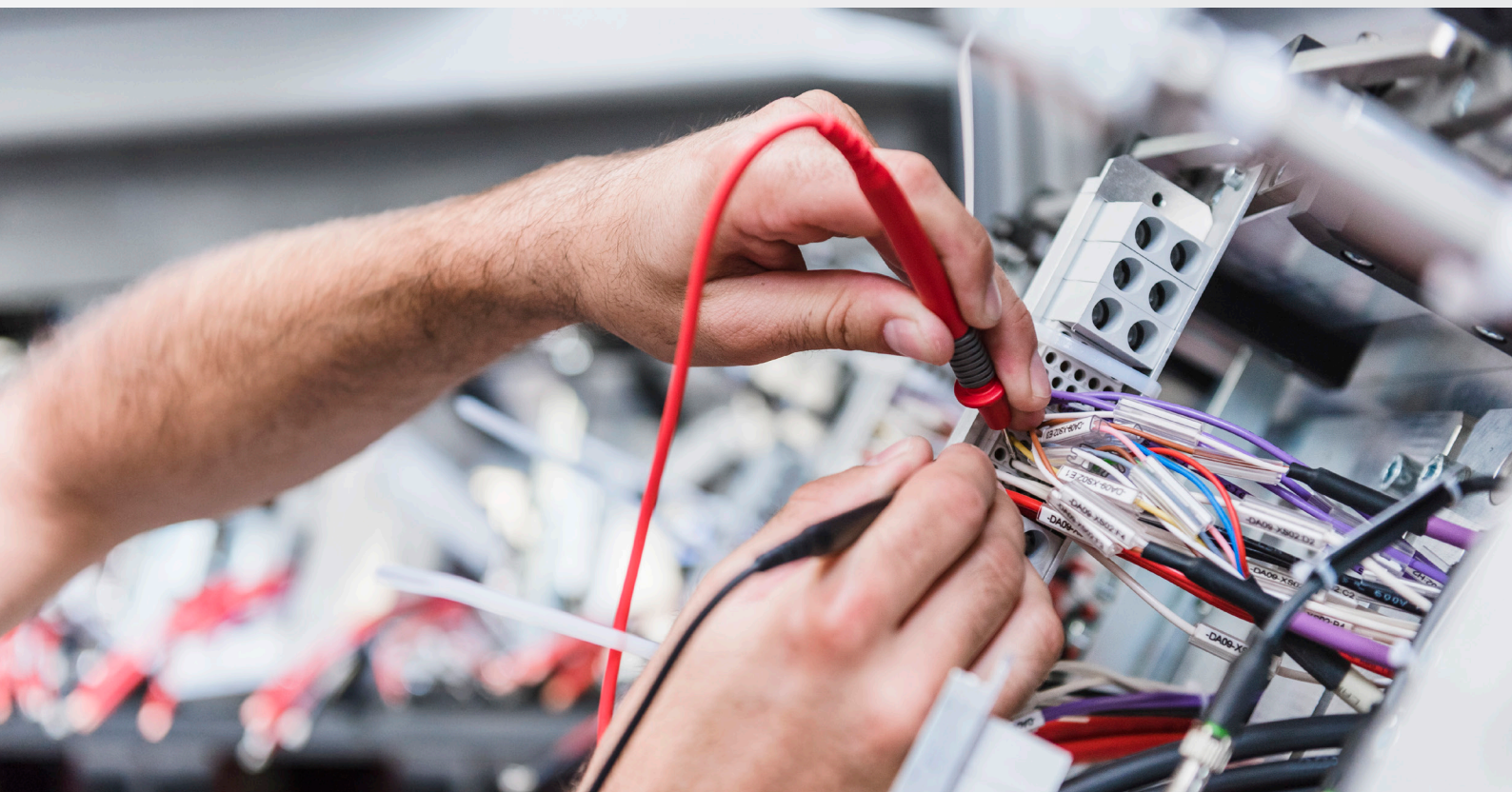
- General Public: Quality and level of signal strength

Our services can provide a detailed data analysis on measurements, identifying the best mobile network and providing solutions before installing any IoT devices, eventually help users to make appropriate choices on choosing service and bring positive effects to their business.

## MEASUREMENT & VERIFICATION

If energy efficiency measures are to make a significant contribution to environmental sustainability, measurement and verification of actual energy savings will be needed to demonstrate their short- and long-term impact. Our M&V services adopt the International Performance Measurement and Verification Protocol (IPMVP) as the basis, which has become the internationally accepted standard for quantifying the results of energy saving. Our energy efficiency experts use this methodology as part of a broader energy efficiency measurement and verification program that covers:

- Compilation of reference database
- Establishment of baseline
- Development of an M&V plan
- Conducting post-retrofit M&V
- Monitoring and adjustment of energy savings
- Issuing of M&V reports
- Monitoring of long-term energy savings





# Mobile Phone. *Tested.*

## **WHY SGS?**

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## **ABOUT SGS**

SGS is the world's leading inspection, verification, testing and certification company. SGS is recognised as the global benchmark for quality and integrity. SGS operates a network of over 2,600 offices and laboratories around the world.

We provide competitive advantage, drive sustainability and deliver trust. At SGS, we are continually pushing ourselves to deliver innovative services and solutions that help our customers move their businesses forward.

Efficiency and cost-optimization are no longer the sole drivers in business development strategies. Successful businesses recognize the importance of offering their workforce continuous development and training. Motivated and effective teams create industry leaders.

WHEN YOU NEED TO BE SURE

