



ELECTRICAL & ELECTRONICS

HOUSEHOLD APPLIANCES LUMINARIES IT&T AUDIO/VIDEO MACHINERY
MEDICAL DEVICES RENEWABLE ENERGIES RETAIL MICROELECTRONICS
AND MORE

CONSUMER TESTING SERVICES



| WHO IS SGS?

SGS is the world's leading testing and certification company with over 59,000 employees and 1,000 offices worldwide.

| WHY SGS CONSUMER TESTING SERVICES (CTS)?

CTS cares about all consumer goods, as quality expectations and the range of safety requirements become more complex everyday. Manufacturers & Retailers need a single consolidated source to reduce risk, improve efficiency and ensure compliance.

>> With our global network and expertise we can offer you solutions in the different consumer markets world-wide. <<

| CTS SERVICES

- Testing
- Verification
- Product Certification
- Technical Assistance
- Product Inspection
- Process Assessment

| CTS MARKETS

- **Softlines** = Textile, apparel, accessories, home textile, footwear, bags, leather and latex products
- **Hardlines** = Hardware, DIY, automotive parts, house ware, furniture, sporting goods, building products, home improvement, toys, juvenile products, gifts and sundries
- **Electrical and Electronics** = luminaries, audio/video, automotive, household appliances, IT, mobile, semiconductors, machinery, medical devices, renewable energies, certification & retail solutions for final products as well as components
- **Food** = Animal origin, plant origin, beverages, bakery and meals
- **Automotive** = Automotive components, interior/exterior parts & materials, automotive EE components, automotive batteries, AUTOSAR, embedded software, aftermarket components and products

| THE SGS COMMITMENT

- We strive to deliver outstanding value
- At every step in your project, we are committed to add value to your work by providing
 - rapid turnaround time
 - value-based pricing
 - technical assistance
 - key account management
 - accurate timely reporting
- We can help improve your product's quality and your brand image.
- In long term partnerships our input will increase your return on your investment.

ELECTRICAL & ELECTRONICS SERVICES



>> With over 1,000 offices & labs world-wide, our global knowledge is locally available. We are wherever you are! <<

| THE WIDEST RANGE OF SERVICES

- Chemicals/RoHS
- Product Safety
- Solar
- EMC (Electromagnetic Compatibility)
- Performance/Reliability
- Wireless Telecommunications
- Microelectronics
- Product Inspection
- Sustainability (EuP, REACH, Ecodesign)
- Energy Efficiency
- Certifications
- Retail programs
- Training

| FOR EVERY INDUSTRY

- Household Appliances
- Luminaries
- IT & T
- Audio/Video
- Machinery
- Medical Devices
- Renewable Energies
- Automotive
- Semiconductors

| TO YOUR ADVANTAGE

We identify the applicable regulations and standards for each of your specific products and target markets.

SGS can help you reduce risk, improve efficiency and ensure compliance to contractual or regulatory requirements in all your manufacturing, sourcing, distribution and retailing operations.

E&E CERTIFICATION

Certifications are in certain countries and for certain products a mandatory requirement. In most cases they become a crucial selling prerequisite. Product testing and production assessment are needed to receive certification and the associated certification mark.

WHY CERTIFICATION?

- fast market access for your product
- competitiveness on more markets
- send a signal to potential clients that quality is your major focus
- get higher ratings when you're evaluated by retailers & importers
- improved reliability - you can refute allegations of product nonconformity
- be present on SGS's "Certified Product" database

GET A PRICE BENEFIT

- adapt the certification program to your production development plan
- eliminate design errors that can affect your reputation and market position
- apply for the combined SGS Safety & EMC certification, you get two factory inspections for one price.

PRODUCT SAFETY

SGS E&E offers certifications that help you gain a competitive advantage in the various markets in which you are interested.

The SGS Safety marks allow you to demonstrate that your product fulfils all relevant and applicable product safety requirements.

Our capabilities in product safety testing and certification, combined with our world-wide accreditations allow us to offer you the following safety marks.



SGS Product Safety



SGS GS



SGS Bauart



SGS Fimko



SGS CEBC



SGS North America



SGS Solar



SGS TÜV GS



SGS TÜV Bauart



ENEC



HAR



CB Scheme



CE Marking



Australia Safety Approval



Russia Gost-R



Japan PSE



China CCC



Korea eK

CERTIFICATIONS



ELECTROMAGNETIC COMPATIBILITY (EMC)

EMC

Electrical products must be disturbance free and therefore electromagnetically compatible (EMC) with other E&E equipment. This means a product does not introduce intolerable electromagnetic disturbances into its environment and is not affected by such disturbances (e.g. mobile phones often create interferences with electrical equipment used in medical practices).



SGS EMC



China CCC



FCC



CE Marking



Russia Gost-R



Taiwan



Korea MIC



Australia C-tick

MARKET YOUR MARK

To maximize the benefits of the newly-awarded certifications, SGS offers to all its certified clients a package - a specific set of marketing tools - that will help you to promote the proven qualities of your product to existing and prospective clients. For further information please contact your local SGS sales.



CB Scheme

Canada ICES-003 Class B
Canada NMB-003 Classe B

Canada ICES



e/Emark



Australia C-tick



RoHS

SERVICES

>> Keep an eye on further RoHS and REACH developments, especially the list of Substances of Very High Concern (SVHC). <<

| EU RoHS DIRECTIVE & LAW

The RoHS (Restriction of Hazardous Substances) legislation covers the restriction of six hazardous substances used in E&E equipment. Known as Directive 2002/95/EC, it has been enforced throughout the EU since 1st July 2006. Its purpose is very clear – the restriction contributes to the protection of human health and the environment.

| THE “NOTORIOUS SIX” SUBSTANCES

RoHS is often referred to as the lead-free directive, but it restricts the use of these six substances:

- Lead
- Mercury
- Cadmium
- Hexavalent chromium
- Polybrominated biphenyls (PBB)
- Polybrominated diphenyl ether (PBDE)

PBB and PBDE are flame retardants used in several plastics

| A GLANCE INTO THE FUTURE

The EU RoHS update is expected during the course of 2009 with conformity due date no later than 2014.

The proposed RoHS directive update would cover medical devices as well as monitoring and control instruments. A list of “priority” substances posing particular environmental concerns when used in E&E equipment will be assessed in line with REACH with a view to a possible ban in the future.

Moreover, four new chemicals are being reviewed to possibly join the list of six substances already banned by RoHS. These are brominated flame retardants HBCDD and phthalates DEHP, BBP & DBP.

Complying with RoHS requirements will also be made easier by the introduction of the CE label for E&E equipment.

| YOUR BENEFITS

The SGS RoHS Program helps retailers, suppliers and manufacturers mitigate the risk of noncompliance to global and national restricted substances regulations. A reliable evaluation of RoHS conformity through product testing and certification provides legal security and improves your market presence and recognition.

| WHY SGS E&E?

SGS has over 24 accredited RoHS laboratories worldwide and 1,000 specialists in this field, providing E&E industries with the requisite, independent data to achieve RoHS compliance. With a proven track record in product safety certification compiled over more than 80 years, SGS is a respected third party organization that helps clients monitor their supply chains and declare compliance with confidence.

| RELATED GREEN PRODUCT SERVICES

- RoHS Certificate of Conformity
- REACH/SVHC
- WEEE Services
- Verification Services
- Green inspection
- Related Chemical Tests
- IECEE HS Reporting Services
- Sustainability Services (EuP, Ecodesign, etc.)

PRODUCT INSPECTION

| PEACE OF MIND – ALWAYS

Proactive problem identification and solution implementation are essential to the success of any company. SGS provides an answer to both and offers much more.

| PROVIDING ASSURANCE

SGS' **Quality Assurance Program (QAP)** ensures there is no flaw in a product's design and that the production and delivery systems are functioning efficiently. Through product evaluation, factory assessment, product inspection, and shipment control, QAP enables manufacturers to identify potential production pitfalls, allowing for a faster time-to-market.

| BRINGING IMPROVEMENTS

It is one thing to identify a problem and another to effectively solve it. While the QAP will identify effective ways to improve product quality, through the **Quality Improvement Program (QIP)**, SGS will assume responsibility for implementing the solutions. QIP allows SGS to become deeply involved in the entire process and give its clients increased control over product design and quality. In addition to **QIP** and **QAP** SGS provides comprehensive **individual customer modules**, to ensure all your inspection needs are being met.



| YOUR BENEFITS

The SGS QAP & QIP services help manufacturers:

- create/maintain a high-end and high-value product line
- develop a strong concept of quality
- assess factory capability
- create strong relationships with suppliers in the long-term
- discover causes of nonconformity and prevent them from occurring
- mitigate other potential risks and avoid product recalls
- deliver product lines on a tight schedule and achieve fast time-to-market

| WHY SGS E&E?

SGS' QIP and QAP services cover all electrical and electronic products, as well as the corresponding accessories and components.

Through the SGS Product Inspection services you have access to:

- A large network of inspectors and auditors worldwide
- Experience (we perform thousands of inspections & audits every year)
- Fast processing/low travel costs/less delays
- Widely recognized reports
- Risk protection



IT&T TESTING

We are your **independent, experienced global partner** in testing & certification for the IT & T and Mobile industry. We are **active members** and **contributors** to:

- GCF – Global Certification Forum
- PTCRB – PCS Type Certification
- Review Board
- PVG – PCS Validation Group
- OMA – Open Mobile Alliance
- CTIA – Cellular, Telecom and Internet Association

| SGS IT & T SERVICES

SGS operates accredited testing labs providing IT & T network systems such as radio base stations, broadband access multiplexers (DSLAM), switches or routers the following services:

- Product Safety Assessment
- EMC Testing
- Product Reliability Assessment (Climatic, Vibration, Earthquake, HALT)
- Air Interface Testing for Radio Base Stations
- Signalling Protocol Conformity Verification (SIP, SIGTRAN, CCS)
- Pre-Compliance Testing
- Product Design Support
- On-site Testing
- Test System Development
- Notified Body
- Compliance Management & Consultancy
- Thermal Simulation
- System Certification

| SGS WIRELESS SERVICES

SGS E&E services to cellular mobile terminal manufacturers/multipliers

- RF & Protocol conformance testing
- GSM/GPRS/EDGE/AMR/UMTS/HSDPA
- Bluetooth Qualification testing
- Wi-Fi
- Environment Reliability testing
- Validation service
- Field testing (IOT)
- SAR testing
- Health & Safety testing
- EU R&TTE test services
- EMC testing
- OTA testing
- Consultancy services
- Client rooms
- International certification schemes
- and more

| WHY SGS E&E?

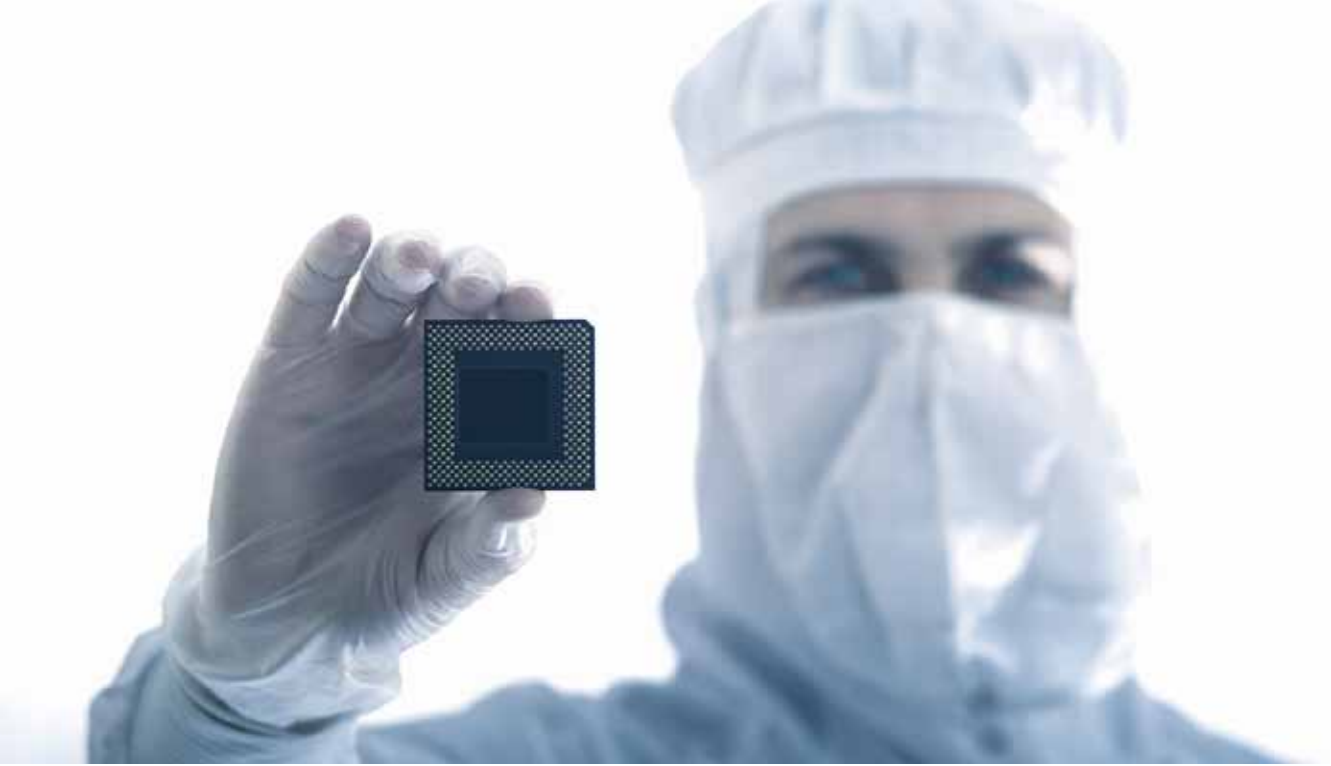
SGS maintains a highly experienced team of engineers who play an active role in multiple standards boards and are members of various industry groups. SGS provides comprehensive testing solutions for telecom products through its network of state-of-the-art labs:

- Mobile Phone Laboratory
- Bluetooth Laboratory
- Wi-Fi Laboratory
- CDMA Laboratory
- Network System Laboratory
- Safety & EMC Laboratory
- Environment Reliability Laboratory

All our labs are ISO 17025/GCF/PTCRB/CTIA accredited and are strategically located in:

- Europe (UK, Germany)
- Asia (China, Taiwan, Japan & Korea)
- US (CA & KS)

WWW.SGS.COM/WIRELESS



MICRO- ELECTRONICS

HIGH-TECH ANALYSIS AT ANOTHER SCALE

The CTS Microelectronics division of SGS Institut Fresenius is the leading provider of analytical services for the semi-conductor industry and its components suppliers. The microelectronics division focuses especially on areas that use Micro- and Nanostructures or thin film technologies.

Our key knowledge with materials, surfaces and layers enables us to support our customers through individualized chemical, biological and physical analyses throughout all value added chain phases, from product and technology development to processes control and final products.

SPECTRUM OF CAPABILITIES

- Research & Development
- Quality Control
- Reliability Tests
- Root Cause Analyses of Failures and Damages
- Certifications
- Green Testing
- Solutions for Related Technologies
- Surface and Thin Layer Techniques
- Medical Technology
- Glass and Optical Layers
- Process Media and Auxiliary Materials
- Nano Testing
- Photovoltaic Testing
- Outsourcing Solutions

PERFORMANCE/ RELIABILITY TESTING



>> Are you sure your products are as good as you think? <<

| RELIABILITY

Reliability is the ability of an object to perform a required function under given conditions for a given time frame. Reliability testing ensures a product works as expected under normal conditions.

Such measurements enable manufacturers and retailers to estimate a product's life span and identify weaknesses that might lead to the product's failure.

| YOUR BENEFITS

- lower costs associated with in warranty and after sale product failures
- higher brand recognition and increased consumer trust in your product.

| PERFORMANCE

Performance is related to ensuring a product actually works as well as promised. Performance testing is not related to any directives and in most cases it is performed at the end of the product development stage, after all Safety, EMC or Chemical tests have been done. It's a comprehensive survey, which entails verifying all relevant test protocols and certificates and creating the required Technical Construction File (TCF).

| YOUR BENEFITS

- you find out the real capacity of your product
- you get a quality mark from SGS
- you get benchmark information to compare with your competitors

| WHY SGS E&E?

SGS looks beyond a client's needs, especially when it comes to manufacturers and retailers.

Through our testing we help you to make your product go the extra mile.

- Manufacturers can improve their products based on test results data
- Poorly performing products can be redesigned or removed from the market
- Test results help in the development and fine tuning of relevant national and international standards

Our global network, extensive resources and expert knowledge of the retail industry give us the expertise to provide large and small retailers with reliable performance services. Retailers who purchase goods in large quantities, need to be sure all products in a lot meet their quality and durability expectations and those of consumers.

A SECURE SOLUTION

| GET IN TOUCH WITH OUR EXPERTS WORLDWIDE

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