

**CONSUMER
SGS TESTING
SERVICES**

TESTING TELECOMMUNICATION NETWORK EQUIPMENT

**QUALIFICATION SERVICES FOR
TELECOMMUNICATION NETWORK EQUIPMENT**

**EMC – ELECTROMAGNETIC
COMPATIBILITY**

ENERGY EFFICIENCY

**PRODUCT CERTIFICATION &
APPROVALS**

PRODUCT SAFETY

**RELIABILITY ASSESSMENT,
RELIABILITY CALCULATION**

**ENVIRONMENTAL ENGI-
NEERING, QUALIFICATION
OF COMPONENTS**

**TELECOMMUNICATION
INTERFACES/PROTOCOL
CONFORMITY TESTING**



SGS

Our test center provides state-of-the-art testing and simulation systems covering over 5.500 sqm. We provide comprehensive consulting on procedures and standards. As the basis for market approval, we test, evaluate and qualify your products according to international standards or customer requirements like EN 300 386, EN 60950, EN 60825, EN 60215, EN 300 132, EN 301 489, EN 61000-3-2/-3-3, EN 61000-4-11, VERIZON NEBS GR 1089/GR 63, 1TR9, AT&T, VCCI, FCC, ITU-T K.20, 21, 45 or CENELEC EN 50468. But these are only some examples. Please contact us for further information.

EMC-TESTING, CONSULTING AND SIMULATION

- Emission up to 40 GHz
- Immunity up to 18 GHz/600 V/m
- ESD, Burst, Surge, Harmonics, Flicker, BCI-Coupling Clamp
- Semi-Anechoic Chambers with 3 m & 10 m measuring distance, Shielded Chambers, GTEM-/TEM-Chambers
- Time Domain Emission Measurement
- Energy Efficiency
- Shielding Effectiveness of cables and enclosures
- On Board EMC, Near Field Scans, Layout Review for Printed Circuit Boards
- EMF-Simulation according to EN 50384 and EN 50385



ENVIRONMENTAL-TESTING, CONSULTING AND SIMULATION

- Climatic Chambers from -90 °C up to +300 °C as well as 5% to 98% relative humidity in chambers ranging from 0,2 m³ to 70 m³.
- Temperature & Temperature shock with low pressure and vibration
- Degree of Protection (IP-Testing)
- Mechanical Tests (Vibration, Shock, Earthquake)
- Salt Mist
- Single and Mixed Flowing Corrosive Gas
- HALT/HASS
- Qualification of Electromechanical Components
- Dust, Sun, Rain, Condensation Water SO₂ (Kesternich)



TELECOMMUNICATION INTERFACES, PROTOCOL CONFORMITY, RELIABILITY, RADIO TESTING

- Reliability/MTBF: IEC 61709, Telcordia SR-332, MIL-HDBK-217F, SN 29500, System Availability Prediction
- Signalling Protocol Conformity Verification (SIP, SIGTRAN, CCS#7)
- Interfaces: TBR12/13, ITU-T G703/704/823/825/957, ANSIT1.403/105, ITU-T I.432.2, IEEE 802.3
- Air interface: GSM, GPRS, EDGE, UMTS, HSUPA, WiMAX, LTE, SRD according to e.g. ETSI EN 301 502 (GERAN), EN 301 908 (UTRAN), EN 302 326 (WiMAX), ETSITS 151 021, ETSITS 125 141, functional tests
- CFR Title 47: part 2, parts 22 & 24
- Test System Development



ACCREDITATIONS AND CERTIFICATIONS – WORLDWIDE

Additionally to our accreditation according to DIN EN ISO/IEC 17025, we are Notified Body (for EMC and R&TTE), CBTL (for EMC and Product Safety) as well as NRTL.

Further information is available on our homepage www.sgs-cqe.de.

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