FUJITSU

Datasheet
Fujitsu Product Compliance Services
In-House und Third Party
Product Compliance Laboratories
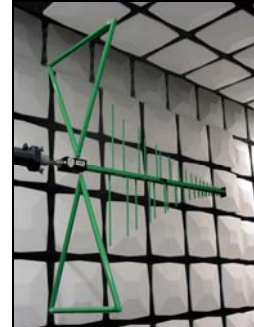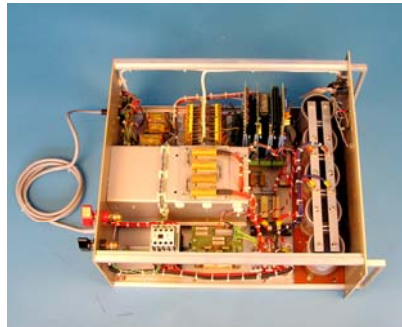
Fujitsu Technology Solutions GmbH

We support our internal and external customers during development of their products with technical services in the field of:

- electromagnetic compatibility (EMC)
- safety
- climatic, mechanics, acoustics
- ecology, energy efficiency
- wireless technology
- worldwide accreditations
- Compliance Talks

We offer consulting testing and certification services with a background of:

- more than 15 years of experience,
- from the viewpoint of a manufacturer,
- with the ability to offer product risk assessment,
- and global accreditation e.g. ISO 17025, VCCI, BSMI, C-Tick; CSA, etc.

Electromagnetic Compatibility

(e.g. for personal computers, data processing and communication technology, industrial controllers, domestic appliances and medical equipment)

We provide professional consulting services and support you:

- in meeting electromagnetic requirements (national and international)
- with the debugging of personal computers, industrial controllers and systems, with our fast service, consulting and debugging during the development process, even at short notice!

For your specific needs:

- Complete EMC-CE approval tests (basis for CE mark and approvals) or
- EMC-CE checks of the most critical spots based on many years of experience
- Customer specific measurements

Examples of our range of services:

Emission tests (according to EN, FCC, VCCI, BSMI, C-Tick, etc.):

- Conducted emission
- Electrical field, radiated emission
- Harmonics and flicker

Immunity tests (according to EN, IEC):

- ESD, electrostatic discharge
- Radiated, radio-frequency electromagnetic field
- Burst, fast transient voltage peaks
- Surge, slow high energy voltage peaks
- Conducted disturbances, induced by radio-frequency fields
- Power frequency magnetic fields
- Voltage dips, interruptions and voltage variations

Consulting and debugging during the development process:

- EMC engineering (electronics/mechanical construction) on demand from product idea to a complete EMC approval test; customer specific EMC training
- Basic troubleshooting concerning EMC characteristics of cables, components, HF devices, etc....

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Product Safety

(e.g. for personal computers, data processing and communication technology, industrial controllers, domestic appliances, medical equipment, etc. according to the requirements of IEC60950-1/EN60950-1)

We provide professional consulting services and support you:
- in meeting product safety requirements (national and international)
- as well as arrange for compliance certifications (national and international)

With our fast service, consulting and debugging during the development process, even at short notice!

For you specific needs:
- complete product safety CE approval tests (basis for CE marks and approval) or
- Product safety CE checks - We check the most critical spots based on many years of experience.
- Customer specific measurements

Examples of our range of services:

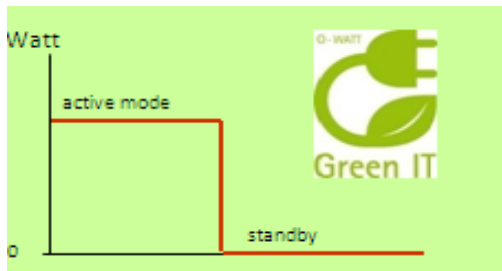## Product safety - visual tests:

- Review of the enclosure concerning fire protection/mechanical hazards
- Examination of the clearance and creepage distances (with disassembling of the power supply)
- Protective earth connection and markings of the product

Product safety - electrical tests

- Protective earth
- Leakage current
- Electric strength
- Abnormal operating and fault conditions

Product safety - mechanical tests:

- Enclosure openings (access to hazardous voltages)
- Mechanical strength and stress relief (with steel ball, steady force and tilt test)

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Energy Efficiency, ECO Requirements (Ecology)

(e.g. for PCs, servers, industrial PCs, monitors, electronic household and office equipment (EMC class B))

We provide professional consulting services and support you with:
- Compliance with legal eco-design or energy efficiency requirements

For your specific needs:
- ErP required measurements for CE declarations or customer specific measurements
- ECO requirements, e.g. for environmental labels in the case of compatibility checks and registration

RoHS Services:
- Support for questions from within your organization regarding the RoHS Directive
- Consulting regarding required evidence documents
- X-Ray measurements of critical components

Further information for ErP

Requirements (Standby, Energy efficiency,, external power supply):

CE Declarations have to include ErP requirements. Therefore, test reports are mandatory.
- ErP standby requirements are valid for all electrical and electronic household and office equipment (EN 55022 - EMC Class B). As of January 2013 "Energy related Products" are allowed to consume ½ Watt (1 Watt with active status display) in standby and/or off-mode.
- External power supplies (AC Adapter) have to meet efficiency and standby requirements (e.g. efficiency $\geq$ 87% Watt by output power >51W) and no-load condition power consumption (e.g. < 0,5 W).
- New requirements are valid for computer and computer servers within the scope of ErP regulations as of July 2013.

Ways to meet requirements for standby:

The ErP standby requirement does not have to be fulfilled for shipment settings. The customer only has to be informed of how he can achieve 0.5 Watt, e.g. in the manual.

A typical example for the realization of energy efficiency requirements is the use of high efficiency power supplies and components.

Links:
- Eco-design of Energy-Related Products http://ec.europa.eu/energy/efficiency/ecodesign/eco_design_en.htm

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Climatic Tests, Mechanical Tests, Sound Emission

e.g. for personal computers, data processing and communication technology, industrial controllers, domestic appliances, medical equipment, etc.)

We provide professional consulting services and support you:
- In meeting climatic, mechanical and sound emission requirements
- In improving your product quality

With our fast service, consulting and debugging during the development process, even at short notice!

For your specific needs:
- Climatic tests, mechanical tests, and sound emission compliant to international standards or
- Customer specific measurements

Examples of our range of services

Thermography (identifying failure risks) and climatic tests (functional performance):

- Measurement of surface temperatures without thermal couplers

- Find the "hot-spots" , identify measurement points for climatic tests.

- Is cooling of critical components e.g. processor, transformer, choke coil, sufficient?

- What happens to your product if the enclosure openings are blocked?

- Support in the development process of the heat management system

Mechanical tests (functional performance) and packaging tests (drop test, transport test, etc.):
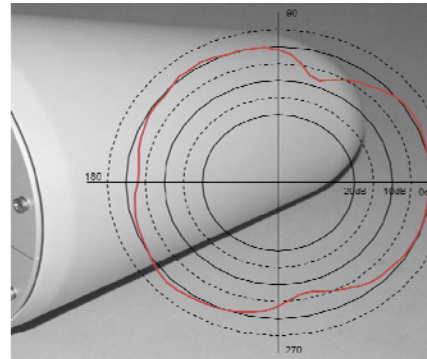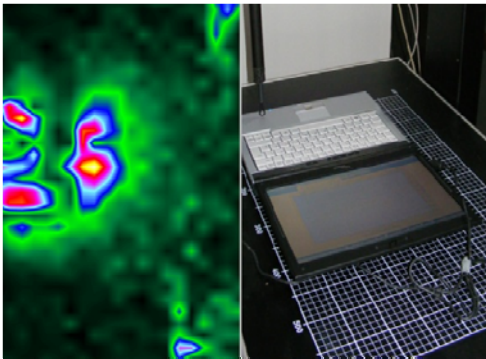
- Vibration during production and during installation on location by the customer
  (e.g. vibration in a building caused by cable cars or subways, simulated by a shaker)

- Investigating causes of damages, errors and providing appropriate solutions

- Vibration during packaging, transport or in notebook cases

- Improvement of transport protection, development of solutions

Sound emission (meet your own specification requirements):

- Locate sound sources and provide solutions

- Compare components of different manufacturers

Long term tests (climatic tests, mechanical tests, pollution, durability, abrasion, etc.):

- for PC notebooks, keyboards, mice, organizers, notebook cases, transport cases, etc.

- in order to ensure quality for mobile offices, cellular phones, etc.

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Wireless Technology

(e.g. for PCs, industrial PCs, periphery, sensors, alarm & signalling systems, remote controls, components for automation and medical equipment, etc.)

We offer technical support and consulting for:
- The implementation of wireless technology for your product (also during the development process)
- Regulatory measurements and global certification through fast testing available at short notice

Tailored to your particular needs:
- Complete wireless integration in your product
- Performance checks during the development process
- Global certification expertise
- Individually tailored test plans

Summary of our Range of Services:
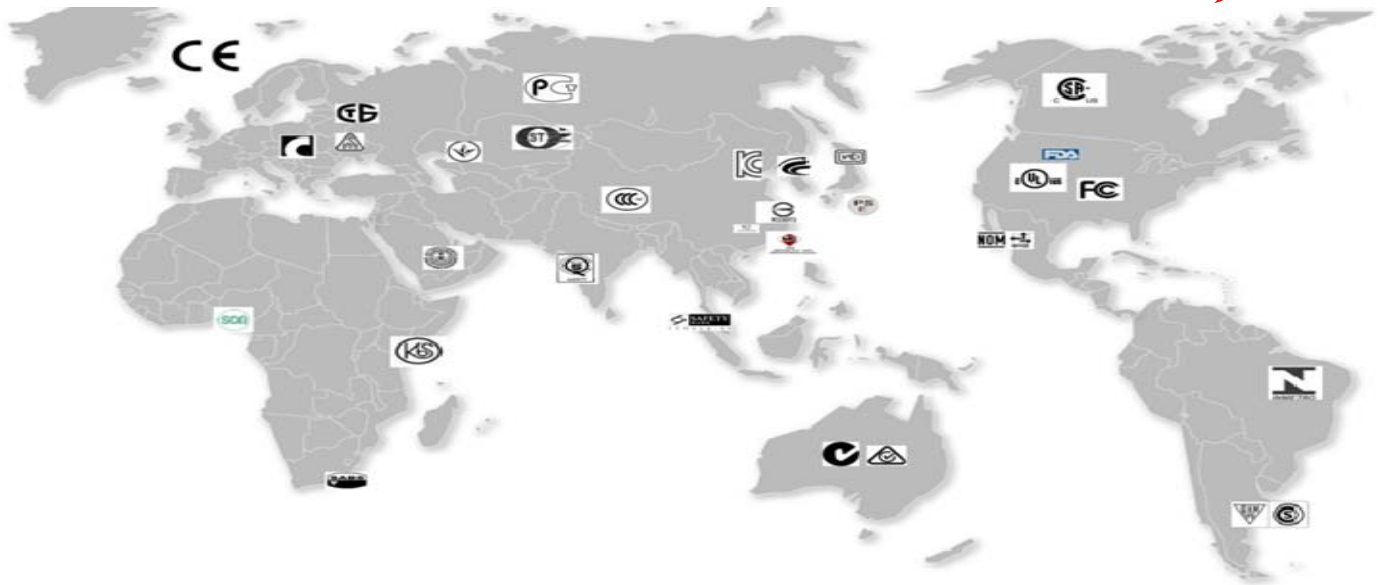
Implementation of Wireless Technology

- Technology consulting
- Creation of system and component specifications
- Component evaluation

Performance Measurements:

- Measurement of data rates under various environmental conditions
- Determining the effects of interference
- Interoperability tests

Regulatory Measurements:

- Measurements according to EN 300328, EN 301893 und EN 301489

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Certification

e.g. for PCs, industrial PCs, periphery, sensors, alarm & signalling systems, remote controls, components for automation and medical equipment, products including radio modules etc.)

Our pleasure (our experience) is to support you by:
- certification consulting during concept and design phase
- handling of certification requests from your customer
- offering support and clarification of regulatory requirements in sales tenders
- regulatory related preparation of your sales activities and shipments outside the European Union
- optimization of your certification strategy by means of cost minimization and performance growth
- applying for the certificates you need for your market and products
- consulting for CE conformity assessment and CE declaration of conformity
- guidance in choice of EU Notified Bodies
- Compliance Talks

Summary of our Range of Services:

Regulatory certification in the area of EMC and product safety	
- USA/Canada: UL/CSA + FCC	- Taiwan: BSMI
- Mexico: NOM	- Vietnam: MIC
- Argentina: IRAM	- South-Korea: KC and more
- GUS-States: GOST-R and Derivate	- worldwide Product Compliance support
- China: CCC	

Voluntary certification in the area of ergonomics, ecology and energy efficiency
- Blue angel, Nordic Swan, TÜV/ECO-Circle, etc.
- GS-mark („Geprüfte Sicherheit"), TÜV / VDE / NEMKO compliance certification