IMPLEMENTATION RULES FOR COMPULSORY CERTIFICATION OF ELECTRICAL AND ELECTRONIC PRODUCTS

Information Technology Equipments

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Certification and Accreditation Administration

of the People’s Republic of China
IMPLEMENTATION RULES FOR COMPULSOEY
CERTIFICATION OF ELECTRICAL AND ELECTRONIC
PRODUCTS

Information Technology Equipments

1. Scope

This document applies to information technology equipments. It includes: Personal computers (PC), Server, Portable personal computers, Display unit, Projector, built-in switching power supply units for computer, Adapter, Charger, Printer, Plotter, Scanner, Finance and trade settlement equipment, Computer game player, Learning machine, Copying machine(including offset machine), etc.

2. Certification Module

Type test + Initial factory inspection + Follow-up inspection

3. Certification Processes

3.1 Application for certification
3.2 Type test
3.3 Initial factory inspection
3.4 Evaluation of certification results and approval of certification
3.5 Follow-up inspection

4. Implementation of Certification

4.1 Application for certification

4.1.1 Defining the application unit for certification

4.1.1.1 In principle, application for certification is made according to model/type of products. The products, of the same manufacturer, of the same model/type, but from different factories, shall be divided into different application units. However, type test is only required to carry out on samples from one of the factories. The samples and related documents shall be provided by other factories to the certification body for consistence check when necessary.
4.1.1.2 Products applying for certification as one application unit shall have totally same critical safety components, same electrical structure, and same components having significant influence on EMC performance (the components marked with * in Appendix 3). In principle, the model/type of products in one application unit shall be clearly indicated. The explanation of application units dividing are detailed in Appendix 1.

4.1.2 Application documents

The formal application shall be submitted, if necessary, with the following documents:

1) Circuit diagram related to safety and EMC test (such as the circuit diagram of power supply unit) and/or the appliance’s system block, installation configuration diagram, etc.;
2) List of critical components and/or materials;
3) User’s manual in Chinese;
4) Nameplate and warnings in Chinese;
5) Description of the difference between each model/type of products in the same application unit;
6) Other necessary documents (such as service manual).

4.2 Type test

4.2.1 Sample delivery for type test

4.2.1.1 The principles of sample delivery for type test

For application unit containing only one model/type, sample of such model/type shall be submitted.

When there are more than one model in one application unit, typical models shall be selected, and the selected samples shall cover all safety and EMC requirements for the products in the same unit. Extra sample type should be submitted for supplementary test when the representative samples can not cover all the requirements above.

For certification of appliance, critical safety components (Appendix 2) in appliance shall be sent separately as required. Separate testing can be exempted for components with valid CCC certificates or voluntary certificates accepted for CCC certification for appliances in accordance with CNCA rules, but samples and related documents of components shall be provided to certification body for check.

4.2.1.2 Samples quantity

The applicants shall deliver sample(s) for type test in accordance with the requirements of the certification body and be responsible for them.

The requirements for quantity of appliance samples are listed in Appendix 1. Sample and
quantity requirements for critical components accompanying the whole appliances samples, to be tested separately, are listed in Appendix 2.

4.2.1.3 Handling of type test samples and related documents

The samples tested and/or the related documents shall be dealt with appropriately after type test.

4.2.2 Test standards, items and methods

4.2.2.1 Test standards

1) GB4943  *Safety of Information Technology Equipment*
2) GB9254  *Information Technology Equipment - Radio Disturbance Characteristics - Limits and Methods of Measurement*
3) GB17625.1  *The Limits For the Harmonic Current Emissions Caused by Low-voltage Electronic Equipments (Equipment Input Current \( \leq 16A \) per Phase)*

Note: Current valid editions of standards mentioned above shall be automatically applied for type test. Explanation will be made by CNCA under special circumstances.

4.2.2.2 Test items

1) Safety test items
The test items for product safety shall include all appropriate items specified in standard GB4943.

2) EMC test items
The test items for EMC shall include following three items specified in standards GB9254 and GB17625.1:
  --Disturbance voltage at mains part;
  --Magnetic intensity of radiated disturbance;
  -- Harmonic current.

3) GB17625.1 isn't applicable to cash register; GB17625.1 and GB9254 are not applicable to computer game player and learning machine.

4.2.2.3 Test methods

The type test shall be carried out according to regulations of relative product standards and the methods and/or standards referred in the product standards.

4.2.3 Type test report and product description report

Testing body shall issue the type test report when the type test is completed.
When type test items are partially unqualified, applicant is allowed to make correction; the correction should be accomplished within the time limited by certification body (count from the date of unqualified notification). The application will be regarded as abandoned if the correction is not accomplished within the time limit. Also the applicant may choose to terminate the application.

*Product description report* shall include information about all products within the application unit related to certification. Certification body shall organize the compilation of product description report in accordance with the requirements for format and content. Product description report shall be accurate, clear and complete.

The certification body shall provide the type test report and product description report to the certificate holder in time. The certificate holder shall assure the valid and integrated reports available in the factory.

4.3 Initial factory inspection

4.3.1 Contents of the inspection

The contents of factory inspection shall include the assessment of factory quality assurance ability and product consistency check.

4.3.1.1 Factory quality assurance ability assessment.

The inspector assigned by the certification body shall carry out the factory quality assurance ability assessment in accordance with *Factory Quality Assurance Ability Requirements for Compulsory Certification* (see Appendix 5), the supplementary inspection requirements stipulated by CNCA and *Test Requirements in Factory Quality Control for Compulsory Product Certification of IT Products* (see Appendix 4).

4.3.1.2 Product consistency check

The consistency of the product applying for certification shall be checked on the site of production, with choice of at least one sample for each product and each manufacturer. The consistency check includes the on-site witness testing and the following contents to be verified:

1) The name of product, type/model and specification on the nameplates and/or packing of products to be certified shall be identical with those indicated in the type test reports.

2) The constructions (mainly constructions in terms of safety and EMC performances) of products to be certified shall be identical with those of the type test sample.

3) The dimensions of the plug of direct plug-in AC adapter shall comply with the construction requirements of GB1002.
4) The critical safety components and components having significant influences on EMC shall be identical with those declared for type test and confirmed by the certification body.

The following witness test items shall be taken for safety according to standard GB8898:

Class I equipment:
- Electric strength test, Grounding resistance test

Class II equipment:
- Electric strength test

For EMC characteristics, on-site witness testing or checking the records of verification test can both be adopted.

4.3.1.3 Inspection scope

Factory quality assurance ability assessment and product consistency check shall cover all the factories of the products to be certified.

4.3.2 Timing of initial factory inspection

Normally, the initial inspection should be carried out after the sample has passed the type test. The type test and factory inspection can be implemented at the same time in special cases. In principle, the factory inspection should be carried out within 1 year after the type test, otherwise the type test shall be re-conducted. The certificated products can be manufactured in the manufacturing premises during the initial factory inspection.

The duration of factory inspection shall be determined by the amounts of application units of products to be certified and with consideration of the scale of factory. It will normally take about 1 to 4 man-days for each factory.

4.3.3 Factory inspection results

The inspection team shall report the factory inspection result to the certification body. The factory should take correction action within the stipulated time limit when non-conformity item exists during the factory inspection. The certification body shall verify the validity of the corrective action in appropriate ways. If the corrective actions are not completed within the time limit, the factory inspection fails.

4.4 Evaluation and approval of certification results

4.4.1 Evaluation and approval of certification results
The certification body is responsible for the general evaluation of type test results and conclusions of factory inspection. The certificate will be issued when the evaluation is passed. The certification body will disapprove and terminate the application either the type test result or factory inspection conclusions are unqualified.

4.4.2 Time frame

Time frame for certification means the working days staring from the acceptance of application to the issuance of the certificates, which includes the time for type test, factory inspection, report submission after inspection, evaluation of certification results and approval of certification, and certificate making.

Normally, the type test takes 30 working days, not including the time for corrective actions and re-test due to the non-conformities. If the safety components are required to be tested and the time needed exceeds that of the appliances, the type test duration shall be calculated according to the longest test time of the component. The type test duration starts from the receipt of the samples and test fees.

Factory inspection reports shall be submitted within 5 working days after the inspection. It will be counted from the day when the inspectors complete the inspection and receive the correction action reports from the factory on non-conformities satisfying the requirements.

Certification result evaluation, certification approval and certificate making shall normally be completed within 5 working days.

4.5 Surveillance

4.5.1 Contents of surveillance

Surveillance includes follow-up inspection, effective investigation on certified products conducted by the relevant certification body.

4.5.2 Follow-up inspection

Normal follow-up inspection shall be scheduled by the certification body and factories. Factories shall ensure that certified products are being produced on the production line. Products, of the same factory, but different manufacturers, shall be covered in the inspection.

Follow-up inspection by the certification body may be carried out without any notice in advance.
Certificate holders shall accept follow-up inspections within the time limit. Otherwise, inspections will be regarded as rejected.

4.5.2.1 The frequency of follow-up inspection

Follow-up inspection shall normally be implemented within every 12 months after the initial factory inspection.

The frequency of inspection shall be increased under any following circumstances:

1) The certified product has serious quality problem, or is complained by clients, and the problem has been verified to be the responsibility of the certificate holders/manufacturers/factories.

2) The certification body has sufficient reasons to question the conformity of the certified product with the requirements of safety and EMC standards.

3) Sufficient information indicates that the conformity or the consistency of certified products might be affected due to the changes in organization structure, production condition and the quality system of the manufacturer and/or factories.

4.5.2.2 Contents of follow-up inspection

The follow-up inspection includes: re-assessment of factory quality assurance ability + checking of consistency of certified products, and if necessary, samples may be taken and tested at the testing laboratory, refer to clause 4.5.3.

The certification body shall implement the factory follow-up inspection in accordance with Factory Quality Assurance Ability Requirements for Compulsory Certification (see Appendix 5). The items 3, 4, 5 and 9 specified in Factory Quality Assurance Ability Requirements for Compulsory Certification must be assessed for each follow-up inspection and the other items may be selected. All the items of the Requirements shall be covered within every four years.

Contents of consistency check of the certified product in follow-up inspection are the same as those in initial factory inspection.

At the same time, the checking shall be conducted in accordance with Test Requirements in Factory Quality Control for Compulsory Product Certification of IT Products (see Appendix 4). The use of CCC mark and certificate shall be checked as well.

4.5.2.3 Duration of the follow-up inspection

The duration of the follow-up surveillance shall be determined by the amounts of units of certified products with appropriate consideration of the production scale of the factory. It will normally take about 1 to 2 man-days.
4.5.2.4 Results of the follow-up inspection

Inspection team shall report the factory inspection results to the certification body. If the factory inspection fails, the inspection team shall report it to the certification body directly. If there is any non-conformity found in the factory inspection, the corrective actions shall be taken within 40 working days. Certification body (inspection team) shall verify the validity of the corrective actions in appropriate ways. If the corrective actions are not completed within the time limit, the factory inspection fails.

4.5.3 Sampling test

If necessary, the certified products should be sampled and tested. The samples shall be taken randomly from the conforming products of the factory (including those from the product line, the stock, and the market/sales agency). For the same product, only one sample is needed.

The designated testing bodies shall complete the testing for the samples in 20 working days. The methods and requirements for sampling shall be carried out according to the relevant specifications of the certification body.

The certification body may decide test items (part or all of the test items) for different products under different circumstances, based on the influence of the test items on the safety and/or EMC performance of the products.

4.5.4 Evaluation of follow-up inspection results

The certificates can be retained and the certification marks can be continuously used upon qualified inspection results. If results are unqualified, clause 5.3 shall be followed.

4.5.5 Follow-up investigation by certification body

The certification body shall conduct effective follow-up investigation on the certificated product in accordance with Regulations of the People’s Republic of China on Certification and Accreditation, and decide the status of the certificates based on the investigation results.

5. Certificate

5.1 Certificate maintenance

5.1.1 Certificate validity

The validity of the certificate depends on the certification body’s follow-up surveillance. When any change in the requirements of this document (such as the standards) occurs, the certificate
shall be updated before the announced deadline, otherwise the certificate expires automatically.

5.1.2 Change of the certified product

5.1.2.1 Application for change

Should any change occur in the specification, type/model and the manufacturer of the components listed in Appendix 2 or Appendix 3 of the certified products, or the design of electric construction concerning safety or EMC of the appliances, or other aspects stipulated by the certification body, the application for approving/recording the change shall be made to the certification body.

5.1.2.2 Evaluation and approval of change

The certification body shall evaluate the change(s) based on submitted information and confirm whether it can be approved or samples shall be submitted for tests. If test is necessary, the change will be approved upon favorable test results.

In principle, evaluation of change(s) shall be based on the product subject to the original type test of full items.

5.2 Extension of certified products

5.2.1 Procedure for extension

For extension within the certified product unit, the certificate holder shall make an application. The certification body shall check the consistency of the extended products with the certified products and confirm the applicability of the original certification results to the extended products, the validity of the standards version. If necessary, supplementary tests or inspections may be carried out against the differences.

In principle, extension shall be based on the product subject to the original type test.

5.2.2 Requirements for sample

The certificate holder shall first submit the technical documents related to the extended products. When samples are required, Clause 4.2 of this document shall be followed for sample delivery and verification. If necessary, test shall be carried out. Test items shall be determined by the certification body and the results shall be submitted to the certification body for evaluation.

5.3 Suspension, cancellation and withdrawal of the certificate

The suspension, cancellation and withdrawal of certificates shall follow *Administrative Measures for Compulsory Product Certification* and the requirements of the certification body.
If certificate holders cannot accept follow-up inspection/or sampling, the certification body shall suspend the relevant certificates.

If certificate holders reject follow-up inspection/or sampling, the certification body shall withdraw the relevant certificates.

Certificate holders may apply to the certification body for suspension or cancellation of certificates. The certification body shall suspend or cancel the certificates according to the application.

For application for certificate suspension due to acceptable reasons such as production stopping, the certificate shall not be suspended for more than 12 months.

If the certificate is not resumed within 12 months, the certification body shall withdraw the certificate. To resume the suspended certificate, the certificate holder shall make application to the certification body. The certification body shall carry out the factory inspection in accordance with the requirements for initial factory inspection. If necessary, samples will be taken randomly for test. Suspended certificates will be resumed after the factory inspection and test (if applicable) are passed.

If follow-up inspection fails, certification body will decide to suspend or withdraw the relevant certificates depending on the non-conformities.

For suspended certificates, certificate holders shall apply for resuming certificates and accept the factory inspection one month after the certificate suspension, but not exceeding 3 months. Otherwise, the certification body shall withdraw the suspended certificates.

The certification body shall carry out the factory inspection in accordance with the requirements for initial factory inspection. If the factory inspection is passed, the suspended certificate will be resumed; otherwise, the certificate will be withdrawn.

Information of certificates being suspended, cancelled or withdrawn shall be announced by certification bodies in appropriate ways.

6. Use of compulsory product certification mark

The certificate holder shall follow *Administrative Measures for Compulsory Product Certification Mark.*

6.1 Design of the mark

The certification mark with “S” (as below) shall be used for certification concerning safety only:
The certification mark with “ S&E” (as below) shall be used for certification concerning both safety and EMC:

6.2 Use of derived certification marks

The products listed in this document shall not be allowed to use any derived certification mark.

6.3 Ways of application

Any of the following three ways may be used:
1) affixing standard marks printed uniformly by CNCA,
2) printing on the nameplate or
3) molding.

6.4 Location of the mark

The certification mark shall be applied on an exposed location on the outer body of the product.

7. Fee

The certification fee shall be charged by the certification body and testing body according to the relevant national requirements.
## Appendix 1

### Definition of application unit of IT products for Compulsory Product Certification

<table>
<thead>
<tr>
<th>Item</th>
<th>Products</th>
<th>Principles of the definition of application unit</th>
<th>Standard of certification</th>
<th>Sample quantity</th>
</tr>
</thead>
</table>
| 1    | Power supply (Including building-in switching power supply, power adapter, charger, etc.) | 1) power supply according to working modes: linear power supply; Switching power supply  
   Power supply according to functions: AC/DC, AC/AC, DC/DC, DC/AC  
   Products with different working modes or functions shall be in different application units.  
   2) Products, with the same electrical circuit, safety construction, and the same critical components in terms of safety and EMC (Components with star * mark in Appendix 3), although different in model types, may be put in the same application unit.  
   3) Products with different construction or dimension shall be in different application units. | GB 4943  
   GB 9254  
   GB 17625.1 | 1. Two sets of samples with max. power of the application unit:  
   2. For application for change or additional model, no test is required if the power of the products is less than that of the previous one. Otherwise, additional test items shall be required.  
   3. For change of critical components in terms of safety and EMC (Components with star * mark in Appendix 3), test is required only to the changing parts. |
| 2    | Personal Computer(PC), Server and Portable computer | 1) Products, with the same supply mode, safety construction, the same critical components in terms of safety and EMC (Components with star * mark in Appendix 3), and the same technology(enclosure construction ),although different in model types, may be put in the same application unit.  
   2) Product with single supply and multi-supply are normally distributed in different application units.  
   3) Class Ⅲ equipment such as laptop computer:  
   A. Different application units for different LCD controlling circuits (according to sizes for integrative LCD products).  
   B. Different application units for different supply voltages | GB 4943  
   GB 9254  
   GB 17625.1 | 1. Computer (max.Configuration): 2 sets  
   2. alternative power supply:  
   2-4 sets/ type |
| 3    | Computer game player, Learning machine | 1) Products, with the same supply mode, safety construction, the same critical components in terms of safety and EMC (Components with star * mark in Appendix 3), and the same technology(enclosure construction ),although different in model types, may be put in the same application unit.  
   2) Product with single supply and multi-supply are normally distributed in different application units.  
   3) Class Ⅲ equipment such as laptop computer:  
   A. Different application units for different LCD controlling circuits (according to sizes for integrative LCD products).  
   B. Different application units for different supply voltages | GB 4943  
   GB 9254 | 2 sets |
### Appendix I: Definition of application unit of IT products for Compulsory Product Certification (continued)

<table>
<thead>
<tr>
<th>Item</th>
<th>Product name</th>
<th>Principle of defining application unit</th>
<th>Standard of certification</th>
<th>Sample quantity</th>
</tr>
</thead>
</table>
| 4    | Display unit                | 1) Products, with the same display construction, same dimensions of CRT, same power supply, same critical components in terms of safety and EMC (Components with star * mark in Appendix 3), the same electrical principle with regards to safety and EMC, may be put in the same application unit.  
   2) Products are in the same application unit, only if power supply and controlling circuit for LCD display or Plasma display are the same.  
   3) Different application unit for different power supply  
   4) Different application unit for different construction  
   5) Different application unit for different CRT dimensions and for different monochromes CRT or color CRT.                                                                 | GB 4943                    | 2                |
| 5    | Projector                   | 1) Products, with the same projecting mode, the same safety construction, the same power supply, the same critical components in terms of safety and EMC (Components with star * mark in Appendix 3) and the same electrical principle with regards to safety and EMC, may be put in the same application unit.  
   2) Different application unit for different projecting modes  
   3) Applying respectively when power supply is different.  
   4) Applying respectively when construction is different.                                                                                      | GB 4943                    | 2                |
| 6    | Printer, Scanner, Copying machine, Plotter, | 1) Applying as a unit when printing or scanning mode, construction of safety and EMC, power supply and safety components, critical components of EMC (Components with star * mark in Appendix 3), electrical principle related to safety and EMC are the same.  
   2) Applying respectively when printing modes (such as matrix printing, laser printing, bubble-jet printing, static printing, heat-sensibly printing ) are different. | GB 4943                    | 2                |
| 7    | Cash register               | 3) Applying respectively when power supply is different.  
   4) Applying respectively when construction is different.  
   5) Applying respectively when input voltage is different for class III equipment.                                                                 | GB 4943                    | 2                |
### Appendix 2

List of critical safety components, testing standards and sample quantities

(4T products of Compulsory Product Certification)

<table>
<thead>
<tr>
<th>No.</th>
<th>Critical parts</th>
<th>GB standards</th>
<th>IEC standards</th>
<th>Sample quantities</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Cord set</td>
<td>GB15934</td>
<td>GB1002</td>
<td>3 sets*</td>
</tr>
<tr>
<td></td>
<td>- Plug</td>
<td>GB2099.1</td>
<td>GB5023.5</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Flexible cord</td>
<td>GB17465.1</td>
<td>GB2099.1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Connector</td>
<td>GB17465.2</td>
<td>GB1002</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>GB17465.1</td>
<td>GB17465.2</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>GB1002</td>
<td>GB5023.5</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>GB17465.1</td>
<td>GB17465.2</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Appliance socket</td>
<td>GB17465.1</td>
<td>GB1002</td>
<td>3 sets*</td>
</tr>
<tr>
<td></td>
<td>- Inlet</td>
<td>GB17465.2</td>
<td>GB5023.5</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Outlet</td>
<td>GB17465.1</td>
<td>GB1002</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>GB17465.2</td>
<td>GB5023.5</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>GB17465.1</td>
<td>GB17465.2</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Miniature fuse</td>
<td>GB9364.1</td>
<td>GB9364.2</td>
<td>48 pieces*</td>
</tr>
<tr>
<td></td>
<td>- Cartridge fuse links</td>
<td>GB9364.1</td>
<td>GB9364.2</td>
<td>60 pieces*</td>
</tr>
<tr>
<td></td>
<td>- Sub-miniature fuse</td>
<td>GB9364.1</td>
<td>GB9364.2</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>GB9364.1</td>
<td>GB9364.2</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>GB9364.1</td>
<td>GB9364.2</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Capacitor for EMI suppression</td>
<td>GB/T14472</td>
<td>IEC60384-14</td>
<td>45 pieces*</td>
</tr>
<tr>
<td>5</td>
<td>Transformer</td>
<td>GB4943</td>
<td>IEC60950</td>
<td>4 pieces (Including 1 piece unsealed)</td>
</tr>
<tr>
<td>6</td>
<td>Appliance switch (Including switching relay)</td>
<td>GB15092.1</td>
<td>IEC61058</td>
<td>3 pieces*</td>
</tr>
<tr>
<td>7</td>
<td>Base material of PCB</td>
<td>GB4943 Appendix A</td>
<td>IEC60950</td>
<td>10 pieces (Dimensions: 130mm×13m m× thickness used actually mm)</td>
</tr>
<tr>
<td>8</td>
<td>Enclosure, Decorative part</td>
<td>GB4943 Appendix A</td>
<td>IEC60950</td>
<td>10 pieces (Dimensions: 130mm×13m m× thickness used actually mm)</td>
</tr>
<tr>
<td>9</td>
<td>HV assembly</td>
<td>GB8898</td>
<td>IEC60065</td>
<td>3 sets</td>
</tr>
<tr>
<td>10</td>
<td>CRT</td>
<td>GB8898 §18</td>
<td>IEC60065</td>
<td>12 pieces</td>
</tr>
<tr>
<td>11</td>
<td>Socket of CRT</td>
<td>GB8898</td>
<td>IEC60065</td>
<td>3 pieces</td>
</tr>
<tr>
<td>12</td>
<td>Photo coupler</td>
<td>GB4943</td>
<td>IEC60950</td>
<td>Test in unit</td>
</tr>
<tr>
<td>13</td>
<td>Integrity filter unit</td>
<td>GB/T15287~15288 **</td>
<td>IEC60939-1~2</td>
<td>32 pieces</td>
</tr>
<tr>
<td>14</td>
<td>Filter Coil</td>
<td>GB/T16512**</td>
<td>IEC60938-1~2</td>
<td>36 pieces</td>
</tr>
</tbody>
</table>
### Appendix 2

List of critical safety components, testing standards and sample quantities

(continued)

<table>
<thead>
<tr>
<th>No.</th>
<th>Component Description</th>
<th>GB Code(s)</th>
<th>IEC Code(s)</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>DC fan</td>
<td>GB4943</td>
<td>IEC60950</td>
<td>Tested in unit</td>
</tr>
<tr>
<td></td>
<td>(Appendix B)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>Isolating resistor (Including resistor bridging the switch)</td>
<td>GB8898</td>
<td>IEC60065</td>
<td>12 pieces</td>
</tr>
<tr>
<td>17</td>
<td>Relay</td>
<td>GB8898</td>
<td>IEC60065</td>
<td>3 pieces*</td>
</tr>
<tr>
<td>18</td>
<td>Modem card</td>
<td>GB4943</td>
<td>IEC60950</td>
<td>Tested in unit</td>
</tr>
<tr>
<td>19</td>
<td>Fusing resistor</td>
<td>GB4943</td>
<td>IEC60950</td>
<td>Tested in unit</td>
</tr>
<tr>
<td>20</td>
<td>Lithium battery</td>
<td>GB4943</td>
<td>IEC60950</td>
<td>Tested in unit</td>
</tr>
<tr>
<td>21</td>
<td>Laser unit</td>
<td>GB7247</td>
<td>IEC60825-1</td>
<td>Tested in unit</td>
</tr>
<tr>
<td>22</td>
<td>Inverter circuit</td>
<td>GB4943</td>
<td>IEC60950</td>
<td>Tested in unit</td>
</tr>
<tr>
<td>23</td>
<td>LCD’s control circuit</td>
<td>GB4943</td>
<td>IEC60950</td>
<td>Tested in unit</td>
</tr>
<tr>
<td>24</td>
<td>Varistors/ Surge suppression varistors</td>
<td>GB10193</td>
<td>IEC60105-1</td>
<td>Tested in unit</td>
</tr>
<tr>
<td></td>
<td></td>
<td>GB10194</td>
<td>IEC60105-2</td>
<td></td>
</tr>
</tbody>
</table>

* Components easily damaged shall be provided according to the requirements
* Only the items related safety in standards GB/T15287 and GB/T15288.
Note: Latest valid version of standards mentioned above should be automatically implemented. Explanation will be made by CNCA in special cases.
List of critical components affecting EMC performance for IT products of Compulsory Product Certification

<table>
<thead>
<tr>
<th>Product Type</th>
<th>Critical Components</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal Computer</td>
<td>Main Board *</td>
</tr>
<tr>
<td></td>
<td>Switching Power Supply</td>
</tr>
<tr>
<td></td>
<td>Filter unit *</td>
</tr>
<tr>
<td></td>
<td>CPU*</td>
</tr>
<tr>
<td></td>
<td>Oscillator</td>
</tr>
<tr>
<td></td>
<td>I/O Board</td>
</tr>
<tr>
<td></td>
<td>Enclosure</td>
</tr>
<tr>
<td></td>
<td>Mouse and Keyboard</td>
</tr>
<tr>
<td></td>
<td>LCD’s control circuit*</td>
</tr>
<tr>
<td>Portable computer</td>
<td></td>
</tr>
<tr>
<td>Pocket PC</td>
<td>CPU*</td>
</tr>
<tr>
<td></td>
<td>Power Adaptor*</td>
</tr>
<tr>
<td>Display</td>
<td>Main Board *</td>
</tr>
<tr>
<td></td>
<td>Filter unit *</td>
</tr>
<tr>
<td></td>
<td>Video Board</td>
</tr>
<tr>
<td></td>
<td>Switching Power Supply</td>
</tr>
<tr>
<td></td>
<td>Video Signal Cable</td>
</tr>
<tr>
<td></td>
<td>LCD’s control circuit*</td>
</tr>
<tr>
<td>Switching Power Supply</td>
<td>Switching transistor *</td>
</tr>
<tr>
<td></td>
<td>Filter unit *</td>
</tr>
<tr>
<td></td>
<td>Switching Transformer</td>
</tr>
<tr>
<td></td>
<td>rectified Diode</td>
</tr>
<tr>
<td>Plotter</td>
<td>Control Board *</td>
</tr>
<tr>
<td>Laser Printer</td>
<td></td>
</tr>
<tr>
<td>Dot Printer</td>
<td></td>
</tr>
<tr>
<td>Bubble Jet Printer</td>
<td></td>
</tr>
<tr>
<td>Scanner</td>
<td></td>
</tr>
<tr>
<td>Copying machine</td>
<td>Main Board *</td>
</tr>
<tr>
<td></td>
<td>Switching Power Supply</td>
</tr>
<tr>
<td></td>
<td>Delivering Motor</td>
</tr>
<tr>
<td>Products mentioned above</td>
<td>mains cord with magnetic-ring</td>
</tr>
<tr>
<td></td>
<td>Signal cable</td>
</tr>
</tbody>
</table>
## Appendix 4

### Test Requirements in Factory Quality Control for Compulsory Product Certification of IT Products

<table>
<thead>
<tr>
<th>Sorts of products</th>
<th>Product name</th>
<th>Test standard</th>
<th>Test items (Clauses No. of standard)</th>
<th>Verification test</th>
<th>Routine Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information technology equipment</td>
<td>Personal computers(PC) ; Server ; Portable computer; Display unit ; Projector; Built-in Switching Power supply ; Power adapter; Charging device; Printer; Plotter; Scanner; Cash register; Computer game player Learning machine; Copying machine</td>
<td>GB4943</td>
<td>1. Marking and instructions (§1.7)</td>
<td>Once/half year or Once/lot*&lt;sup&gt;1&lt;/sup&gt;</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2. Electric construction (§2.10)</td>
<td>Once/year or Once/lot*&lt;sup&gt;1&lt;/sup&gt;</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3. Earth leakage current (§5.1)</td>
<td>Once/year or Once/lot*&lt;sup&gt;1&lt;/sup&gt;</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>4. Electric strength (§5.2, 6.2)</td>
<td>Once/half year or Once/lot*&lt;sup&gt;1&lt;/sup&gt;</td>
<td>✓ (Duration: 1 ~ 4 seconds)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>5. Ground resistance (§2.6.3.3)</td>
<td>Once/half year or Once/lot*&lt;sup&gt;1&lt;/sup&gt;</td>
<td>✓ (Duration: 1 ~ 4 seconds)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>GB9254</td>
<td>6. Dimension of plug of direct plug-in AC power adapter</td>
<td>Once/half year or Once/lot*&lt;sup&gt;1&lt;/sup&gt;</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>GB17625.1</td>
<td>7. Disturbance voltage at Mains part</td>
<td>Two years</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>8. Radiated disturbance</td>
<td>Two years</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>9. Harmonic current</td>
<td>Two years</td>
<td></td>
</tr>
</tbody>
</table>

**Note:**

1. Routine test is 100% testing to perform at the end of production line. In general, there is not any further processing after routine test except packing or putting on the nameplate/label. Verification test is sampling test, whose purpose is to verify product's continual compliance with relevant standards.

2. Verification test shall be implemented according to relevant standards.

3. Routine tests are allowed to use an equivalent or rapid method that have been verified.

4. Were the factory not provided with testing equipment, it would be permitted to entrust the lab for testing of verification test.

*1. Once/lot, but no less than Once per half year.
Appendix 5

Compulsory Product Certification Requirements

for Factory Quality Assurance Ability

Factory shall meet the requirements for factory quality assurance ability specified in this document, in order to ensure that all certified products are identical with the sample(s) against which the type test was approved.

1. Responsibilities and Resources

1.1 Responsibilities

Factory shall define the responsibilities and inter-relations of all the personnel involved in quality activities. And Factory shall appoint a management representative for quality, who, irrespective of other responsibilities, shall be responsible for:

a) ensuring that quality system, which meets the requirements of this document, is established, implemented and maintained,

b) ensuring that the products with the compulsory certification mark are produced in conformity with the standards to which they were certified,

c) establishing documented procedures to ensure that compulsory certification marks are kept and used appropriately,

d) establishing documented procedure to ensure that the compulsory certification mark is not affixed on any non-conforming product or changed product that was not notified to certification body.

The management representative for quality shall be competent to perform the work.

1.2 Resources

Factory shall be equipped with necessary production facility and testing equipment in order to consistently manufacture products in conformity with relevant standards. In addition, factory shall provide relevant human resources, to ensure that personnel performing work affecting product quality is competent, and shall establish and maintain necessary environment suitable for manufacturing, testing and inspection, storage, etc.

2. Documents and Records

2.1 Manufacturer shall establish and maintain documented quality plan or similar documents for certified products, and the documents necessary to ensure that processes related to product quality are operated and controlled effectively. Quality plan shall include
requirements for product design objective, realization process, test and related resources, changes (i.e. standards, techniques, critical components, etc.) to certified products, as well as use and management of marks.

Standards or specifications that the design is based on, as one essential part of quality plan, shall be no less strict than the requirements specified in the standards in this document.

2.2 Factory shall establish and maintain documented procedures to control the documents required in this document, to ensure that

a) all documents are approved by authorized personnel prior to issue and change;

b) changes and current revision status of documents are identified to prevent unintended use of obsolete documents;

c) relevant valid versions of applicable documents are available at points of use.

2.3 Factory shall establish and maintain documented procedures to define the controls for the identification, storage, protection and disposition of records. Records shall be legible, integral to provide evidence of product conformity to requirements.

Records shall be retained for an appropriate period.

3. Purchasing and Incoming Goods Inspection

3.1 Control of Supplier

Factory shall establish the procedures that define the criteria for selection, evaluation and routine supervision of supplier, which provide critical components and material, to ensure the supplier has ability to provide the critical components and material in accordance with requirements.

Records of the evaluations and routine supervision shall be maintained.

3.2 Inspection/Verification for Critical Components and Material

Factory shall establish and maintain procedures of inspection or verification for purchased critical components and material, and of periodic verification inspection, to ensure that critical components and material meet specified certification requirements.

Inspection for purchased critical components and material may be carried out by the factory or the supplier. Where inspection is performed by the supplier, the factory shall specify the intended inspection requirements to the supplier.

Factory shall maintain records of inspection or verification of critical components, verification inspection records, evidence of conformity and relevant inspection data, etc.
4. Process Control and Inspection

4.1 Factory shall identify critical production processes and arrange operators with appropriate qualification at the processes. If product quality can not be guaranteed due to lack of operating document, appropriate operating instructions shall be prepared to make production processes under control.

4.2 Where environment condition is required, factory shall meet the requirements.

4.3 Factory shall monitor and control appropriate process parameters and product characteristics, as applicable.

4.4 Factory shall establish and keep maintenance procedure for the manufacturing equipment.

4.5 Production shall be inspected at appropriate stages of manufacturing to ensure that products, components and parts are identical to the sample approved for certification.

5. Routine Tests and Verification Tests

Factory shall establish and maintain documented routine test and verification test procedures to verify and demonstrate that products are in compliance with relevant requirements. The procedures shall include test items, contents, method, acceptance criteria, etc. Test records shall be maintained. Routine tests and verification tests shall meet the requirements specified in the relevant Implementation Rules for Compulsory Certification.

Routine tests are performed on all products on the production line and are normally carried out at the final stage of production. Normally no further operations may be carried out after these tests, except for labeling and packing.

Verification tests are tests on samples taken randomly in order to verify and demonstrate that products consistently meet standard requirements.

6. Inspection and Test Equipment

The equipment used for inspection and test must be regularly calibrated and checked for correct operation, and meet inspection and test capacity requirements.

Factory shall stipulate the operation rules of the inspection and test equipment. Testing personnel shall follow the rules and use the equipment correctly.

6.1 Calibration

Inspection and test equipment used for determining the conformity of the products being manufactured shall be calibrated on a regular basis. All calibrations undertaken on such equipment must be traceable to national or international standards. For in-house calibration, the method, acceptance criteria, calibration interval, etc. shall be documented. Calibration status of the equipment shall be easily identified by operator and personnel in-charge.
Calibration records shall be maintained appropriately.

6.2 Functional Check

The functional check of the equipment used for routine tests and verification tests shall be undertaken on a daily basis. When functional check is found to be not satisfying specified requirements, arrangements shall allow previous product to be traced, retrieved and re-tested if necessary. Operator shall be instructed on what action is to be taken if a functional test is found to be unsatisfactory.

The results of functional check and all subsequent corrective actions taken must be recorded.

7. Control of Non-conforming Product

Factory shall establish procedure of control of non-conforming product, which shall include identification method, segregation, disposal, corrective action and preventive action. Repaired and reworked product shall be re-tested. Records of repairing for critical components and parts and disposal of non-conforming product shall be maintained.

8. Internal Audit

Internal audit procedures shall be established and documented to ensure that quality system is implemented effectively and certified products are consistent. The results of internal audit shall be maintained.

Factory shall keep records of all complaints, especially to a product’s non-compliance with requirements of relevant standard, and make these complaints as one of inputs of internal audit.

Corrective and preventive actions shall be taken to non-conformities, and records shall be maintained.

9. Consistency of Certified Product

Factory shall control the consistency of all certified products with the sample(s) against which the type test was approved, in order to ensure all certified products are compliant with requirements continuously.

Factory shall establish procedures to monitor changes of the critical component, material, construction and factors that may affect compliance with relevant requirements. The changes on certified products must be notified to the certification body for approval, prior to their implementation.

10. Packing, Handling and Storage

Finished products shall be packaged, stored and handled in such a way as to ensure that they will continue to comply with the applicable standards.