FCC PROPOSAL TO DEREGULATE EQUIPMENT
AUTHORIZATION REQUIREMENTS FOR DIGITAL DEVICES

Art Wall
Federal Communications Commission
7435 Oakland Mills Road
Columbia, Maryland 21046

ABSTRACT

On February 7, 1995, the FCC adopted a new proposal to deregulate the equipment authorization requirements for digital devices. The proposal is in partial response to an industry request to replace the current requirement for certification of personal computers with Manufacturer's Declaration. The proposal also addresses issues of equipment authorization requirements for modular personal computers, laboratory approvals and international harmonization of conformity assessment. The FCC invited comments from all interested parties. This paper summarizes the salient points of the proposal and includes background information.

INTRODUCTION

The Federal Communications Commission, en banc, adopted on February 7, 1995, a Notice of Proposed Rule Making (NPRM or Proposal) to amend Parts 2 and 15 of the FCC Rules to deregulate the equipment authorization requirements for personal computers and associated peripherals. Specifically, the Commission requested comments from interested parties on a proposal to relax the equipment authorization requirements for these devices from certification to a new equipment authorization process. The new process is based on a manufacturer or equipment supplier including a declaration with the product that states that the equipment has been tested and found to comply with the applicable FCC standards. The FCC label will be replaced with a new FCC logo for personal computers and will retain the present FCC user information. This part of the NPRM also proposes to require that the testing of personal computers and associated peripherals be accomplished by a Laboratory approved by the National Institute of Standards and Technology (NIST) under its National Voluntary Laboratory Accreditation Program (NVLAP). The NPRM also solicits comments on a proposal to permit personal computers to be authorized based on tests and approval of their individual components, without further testing of the complete assembly. These changes would allow manufacturers and suppliers to market new equipment without having to submit an application for equipment authorization and await FCC approval. We anticipate that these proposed rule changes would save industry approximately $250 million annually. The proposed rules, if adopted, would also stimulate the creation of jobs and competition in the computer industry by relaxing regulations that are particularly burdensome for small manufacturers. Viable alternatives to these proposals are also solicited in the NPRM.

BACKGROUND

Before going on to specifics of the proposal, it might be useful to provide some background information about the FCC Rules for digital devices, personal computers, etc. In the 1970's, it became clear that computers and data processing equipment were becoming a major source of harmful interference to radio communications in the U.S.A. For this reason, the FCC amended Part 15 in 1980 by adding new standards and administrative requirements for what, at the time, was defined as computing devices. The name was later changed to digital devices in 1989. The new Rules required computers and similar equipment to meet line conducted and radiated RF emission limits as well as to be labelled as complying with the new FCC Rules. The following provides a list of key definitions which are necessary to understand the Rules:

Unintentional Radiator -- a device that intentionally generates and uses radio frequency energy within the device. The RF energy is not intended to be radiated from the device. Examples include digital devices, (ITE), video cassette recorders, radio receivers and similar devices.

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Digital Device -- an unintentional radiator that generates and uses timing signals and pulses at a rate in excess of 9,000 pulses (cycles) per second and uses digital techniques. This includes computers, data processing equipment and other types of information technology equipment. The following class of devices are temporarily exempt from the technical and administrative requirements of the FCC Rules:

1. Digital devices in transportation vehicles
2. Digital devices in an industrial plant or public utility facility
3. Test equipment
4. Specialized medical test equipment
5. Digital devices with a power consumption of less than 6 nW
6. Passive devices (e.g., joystick) attached to a computer
7. Battery operated digital devices generating a frequency less than 1.705 MHz.

Personal Computer -- a digital device intended for use in the home or office as personal apparatus for word processing, computations, spreadsheets, database management, games and similar applications. It is inclusive of associated peripherals and I/O devices; e.g., printer, monitor, keyboard, etc.

Information Technology Equipment (ITE) -- a term used in the international standard CISPR Publication 22 to include any equipment that has a primary function of entry, storage, display, retrieval, transmission, processing, switching or control of data or telecommunication messaging. It includes data processing equipment, office machines, electronic business and telecommunication equipment.

Class A Digital Device -- a device that is marketed for use in a commercial, industrial or business environment, exclusive of a device which is marketed for use in the home or by the general public.

Class B Digital Device -- a digital device that is marketed for use in a residential environment, notwithstanding use in a commercial, business or industrial environment. The limits for Class B devices are approximately 10 dB tighter than the Class A devices, because of the proliferation and proximity of consumer devices to susceptible receivers.

Certification -- a bilateral equipment authorization procedure in which the manufacturer or supplier of a personal computer or other device subject to certification submits an application, fee, test report, description of the equipment along with the other information specified in 2.901 et seq of the Rules to the FCC for approval. The FCC Laboratory reviews the information and, if acceptable, issues a grant of certification. Parties that perform tests for certification must submit a description of their test facilities to the FCC Laboratory, pursuant to Section 2.948 of the Rules.

Verification -- a unilateral equipment authorization procedure in which the manufacturer or supplier of a digital device or other device subject to verification tests, or has the device tested, for compliance and then labels it as compliant with the applicable FCC Rules.

Most digital devices are self-verified and labelled by the manufacturer. Only personal computers and associated peripherals are subject to certification by the FCC. Compliance with these requirements is a prerequisite for legal importation and marketing of digital devices, pursuant to Subpart I of Part 2 of the FCC Rules.

SPECIFIC ASPECTS OF PROPOSAL

Manufacturer's Declaration. As stated above, the FCC proposal, if adopted, would create a new equipment authorization procedure for personal computers and associated peripherals. Specifically, the proposal would relax the equipment authorization requirements for these devices from certification to a new equipment authorization process based on a manufacturer's or supplier's declaration of compliance. Under this procedure, a manufacturer or equipment supplier would have a product tested by an accredited laboratory to ensure compliance with those standards in the literature furnished with the equipment. The statement, entitled "Declaration of Conformity" (DoC), would include the following information: 1) identification of the specific product covered by the declaration (e.g., by trade name and model number); 2) a statement that the product complies with Part 15 of the FCC Rules; 3) identification of the compliance test report by date and number; and 4) identification by name, address and telephone number of the manufacturer, importer or other party located within the U.S.A. who is responsible for ensuring compliance. The party that issues the DoC would be the party responsible for ensuring compliance with all applicable FCC requirements. The declaration must be completed before the subject equipment may be imported or marketed. Further, the responsible party must furnish the DoC and test report to the Commission within 14 days, if requested. To ensure that personal computers and peripherals continue to comply with the FCC emission standards, the Commission plans to
reallocation of its resources that had been used to process applications for certification to increase examination and testing of sample equipment on the market. It should be noted that this aspect of the proposal is similar to suggestions advanced by the Information Technology Industry Council (ITI), formerly the Computer and Business Equipment Manufacturers Association (CBEMA).3

The proposal is similar to product approval programs for digital devices employed in other parts of the world. In Europe, for example, manufacturers are permitted to self-declare compliance with radio noise standards for Information Technology Equipment (ITE). Further, there is growing interest in the international harmonization of standards, test methods and product approval procedures to better facilitate trade. See the discussion below regarding recent international developments that will affect how administrations will be handling conformity assessment in the future. The FCC has, in fact, taken actions in the past to harmonize the standards and measurement procedures for ITE with those accepted internationally.4 The Commission believes that the DoC proposal would advance the possibility that U.S. product approvals for personal computer equipment may one day be accepted throughout the world.

Labelling. Under the current FCC Rules, personal computers and peripherals must be labelled with the FCC Identifier that is associated with the grant of certification. The equipment must also be labelled in accordance with Section 15.19(a)(3) of the Rules. Since DoC may replace certification, FCC identifiers will no longer be required for personal computers. Accordingly, there is no easy way for consumers to look at a specific device and determine that it complies with FCC testing and authorization requirements. For this reason, it was proposed that personal computers and peripherals be required to carry a small logo, similar to the UL logo used on products that comply with standards developed by the Underwriters Laboratory or the EC mark that indicates compliance with European standards. The logo will indicate compliance with FCC Rules. Comments on specific aspects of the format of the logo, benefits and costs of this new requirement were solicited. The existing requirement in Part 15 to provide information in the user manual will be retained.

Laboratory Testing. A key part of the proposal for DoC is to provide a method or procedure to ensure that laboratories can adequately perform the necessary testing. For this reason, the National Voluntary Laboratory Accreditation Program (NVLAP) under the auspices of the National Institute of Standards and Technology (NIST) was identified as an acceptable program for determining the acceptability of test laboratories. NVLAP could serve as an effective method for laboratories to demonstrate competence to perform FCC compliance testing. Under this program, NIST would send a recognized expert to observe testing and review the qualifications of a laboratory's testing personnel, quality control procedures, independence from manufacturer, record keeping, capability, reporting, etc. The FCC also recognized that some form of laboratory accreditation is generally required, either implicitly or explicitly, under most foreign product approval procedures. Therefore, as part of the DoC process, the proposal includes a requirement that laboratories testing personal computers and associated peripherals be NVLAP accredited. Specific comments are solicited in the NPRM on the desirability of requiring NVLAP accreditation of manufacturer's laboratories or permitting alternative methods of accrediting laboratories.

Transition Period. At present only 20 laboratories are accredited by NVLAP for FCC testing of personal computers and associated peripherals with only one located outside the United States. Because there are relatively few accredited laboratories, an adequate transition period is believed to be necessary to allow laboratories an opportunity to obtain NVLAP accreditation. Accordingly, the FCC proposed to maintain the option of obtaining FCC certification for personal computers and associated peripherals for a period of two years to allow laboratories time to obtain accreditation. Comments about the adequacy of the time period were solicited. The FCC is aware that it may be particularly difficult for foreign laboratories to obtain NVLAP accreditation due to the logistics of arranging for the required inspection by experts. However, NIST could negotiate agreements whereby its foreign counterparts could perform the necessary accreditation. The FCC staff plans to work closely with NIST to ensure that NVLAP is effective in ensuring the competence of laboratories that perform FCC compliance tests for personal computer equipment.

Alternative Proposals. Interested parties were invited to comment on these proposals to deregulate the equipment authorization requirements for personal computer equipment and to solicit suggestions for alternative approaches. One alternative would be to retain the current certification process, but streamline it to reduce the processing time. Another alternative
would be to maintain the certification requirement, but permit marketing to begin as soon as the application is filed. Yet another option would be to relax the certification requirement for personal computer equipment to notification or verification. Supplier's declaration, it should be noted, is very similar to the current FCC verification procedure. The two principal differences are: 1) manufacturers must include a copy of the DoC with the information furnished to the user; and, 2) testing laboratories will be required to be accredited by NIST. Comments were also solicited as to whether digital devices that are currently subject to verification should instead be subject to DoC. Comments about the conditions as when testing is not required were also requested. Information about the impact of these proposal on small businesses was solicited.

**Modular Personal Computers.** Another separate aspect of the NPRM is the authorization of modular personal computers. The rules currently require that every combination of enclosure, power supply and CPU board that is marketed as a personal computer be tested and receive an equipment authorization prior to marketing. Individual enclosures, power supplies and CPU boards are considered to be subassemblies that are not subject to testing and equipment authorization requirements until they are assembled into a personal computer. In a separate proceeding labeled GEN Docket 90-413, the Commission issued two separate proposals to permit authorization of major computer components. For various reasons those proposals were not acceptable and the proceeding is being terminated. Nevertheless, the Commission believes that it is important for the rules to recognize the changes that have occurred in the design and marketing of personal computers. Accordingly, in addition to the DoC proposal, the NPRM also proposed further changes that will provide for modular digital devices. Specifically, the FCC proposed to require all CPU boards, power supplies, and enclosures designed for use in personal computers and marketed to the public be authorized to demonstrate compliance with the technical standards contained in Part 15.

The proposal allows any party to integrate personal computer systems using these authorized components or to interchange these components in existing personal computer systems without the need to retest the resulting system, provided the instructions for incorporating the component into the final product are followed. The assembler will be required to issue a new DoC indicating the basis on which compliance was ensured. This DoC must specify the identification of each product used in the computer by date and number, identification by name, address and telephone number of the assembler who becomes responsible for ensuring compliance of the resulting system. As with complete systems, digital devices fabricated by assemblers must also comply with labeling and user information requirements of Sections 15.19, 15.21, 15.27 and 15.105 of the rules.

CPU cards will be required to be tested twice; whereas, power supplies may be authorized based on a single test with it installed in a typical configuration, according to the proposal. The tests for enclosure must show 6 dB of shielding effectiveness across the frequency spectrum from 30 to 1000 MHz. The DoC for the enclosure will be required to specify the particular types of CPU boards for which it is authorized; e.g., for use with 486DX2 CPU boards. The proposal would also prohibit authorization of CPU boards or internal power supplies that require complex electrical changes to the host system, such as by soldering parts or altering circuitry to achieve compliance. The instruction manual of modular components must describe any special accessories and specify all of the installation procedures that must be followed to ensure compliance with the rules.

The proposal would continue the policy of permitting non-authorized CPU boards and power supplies to be sold to other manufacturers for further fabrication. In such cases, as in the past, the final manufacturer would be responsible for testing and authorizing the assembled product. However, CPU boards, internal power supplies and enclosures that are marketed to the general public must be authorized prior to marketing. Comments were solicited on all these proposals.

**INTERNATIONAL DEVELOPMENTS IN CONFORMITY ASSESSMENT**

As mentioned above, there are international developments that make this proposal attractive and a few words about some of these developments would be appropriate. There is growing world-wide interest in the international harmonization of standards, test methods and product approval procedures to better facilitate trade. For example, the North American Free Trade Agreement (NAFTA) Article 1304-6 calls for each of the parties to adopt, as part of their conformity assessment procedures, provisions necessary to accept the test results from laboratories in the territory of the other for product approvals. The Asia Pacific Economic
Community (APEC) has adopted guidelines promoting the regional harmonization procedures for the certification of telecommunications equipment. These guidelines state that APEC Member Economies should accord mutual recognition of laboratory test data from other members that is performed in accordance with the accepting economy's standards and technical requirements. The APEC guidelines also call for the certification procedures to be streamlined, to provide equipment supplies with a rapid approval process containing the minimum of administrative obstacles. In addition, at the December 1994 Summit of the Americas hosted by the United States, the Organization of American States Inter-American Telecommunications Commission (CITEL) was tasked with examining ways to promote greater consistency of the authorization processes for telecommunications equipment among member countries. Mutual recognition talks are also anticipated under the Korean Free Trade Agreement.

The United States is also currently engaged in negotiations with the European Union (EU) on a Mutual Recognition Agreement in the field of Conformity Assessment Activities. The United States delegation is lead by the Office of the United States Trade Representative and the Department of Commerce. Representatives from the Federal Communications Commission and other federal agencies are also participating in the talks.

As it currently stands, the agreement would undertake to grant mutual acceptance for reports, approach, certificates and marks of conformity drawn up and issued directly by the bodies or authority in the United States of America, or within the European Community, which are specified in the Sectoral annexes to the agreement. The agreement would cover only products originating in the countries of the Parties to the agreement.

The agreement would cover, among other areas, the relevant European directives with regard to electromagnetic compatibility (EMC), telephone terminal equipment (TTE) and low voltage. As currently envisioned, the United States Department of Commerce's National Institute of Standards and Technology would ensure the performance of U.S. facilities as required under the agreement. One issue under discussion is whether the agreement should extend beyond mutual acceptance of test results to include acceptance of product approvals. This aspect of such an agreement would require changes in U.S. law. Further, changes in the FCC regulations would need to be adopted through rule making. The FCC does not have legal authority to designate outside parties to authorize equipment that must currently be authorized by the FCC. As of April 1995, there have been four formal meetings with the EU to develop a MRA for conformity assessment.

**SOURCES OF INFORMATION**

The FCC provides an on-line information service called PAL (Public Access Link). PAL can be used to check the status of equipment authorizations and to learn more about the FCC rules. PAL can be reached at (301) 725 1072, using modems up to 14,400 baud.

Copies of the FCC Rules (Title 47 of the Code of Federal Regulations) can be ordered by contacting the U.S. Government Printing Office by telephone at (202) 512-1800. GPO accepts Master Card, VISA, checks and money orders. You may contact GPO by writing to:

U.S. Government Printing Office
Superintendent of Documents
P.O Box 371954
Pittsburgh, PA 15250-7954
Fax: (202) 512-2250

Requests for rule interpretations may be directed to the Customer Service Branch. Questions concerning equipment authorization may be directed to the Applications Processing Branch. Both branches may be reached at (301) 725 1585. The fax number is (301) 344 2050.

**CONCLUSIONS**

The purpose of this paper is to present some of the key aspects of this far-reaching FCC proposal to deregulate its equipment authorization requirement for personal computer equipment and to provide some additional flexibility for modular personal computer systems. The tentative dates for filing comments and reply comments in this proceeding are June 5, 1995 and July 5, 1995, respectively. Afterwards the comments will be reviewed and a staff recommendation prepared. If acceptable to the Commission, final rules may be adopted by the end of 1995. However, it should be remembered that the FCC proposal is subject to public scrutiny and change, based on the comments received in this proceeding. While not all of the aspects are likely to be adopted as proposed, it is clear that some parts of the proposal may be adopted resulting in decreased regulatory burden, reduction in the time market, greater design flexibility
and lower costs for manufacturers and consumers. The discussion on recent international developments was included to illustrate how the international environment is changing conformity assessment worldwide. Sources for obtaining information were provided for the convenience and future use of the reader. As a final comment, the opinions expressed in this paper are those of the author and do not necessarily reflect the opinions of the Commission or the staff.

ENDNOTES


2. CISPR is a French acronym for the International Special Committee on Radio Interference. It is an international voluntary standards making organization under the auspices of the International Electrotechnical Commission. Many of the recommendations (standards) are adopted by various countries as their national mandatory standard for controlling radio interference. CISPR Publication 22 (1993) is entitled: "Limits and methods of measurement of radio disturbance characteristics of information technology equipment".

3. In letters to the FCC Chief of the Office of Engineering and Technology, ITI claims that such an approach would save manufacturers and suppliers of personal computer equipment $250 million annually.

4. For example, see the Report and Order in GEN Dockets 89-116, 89-117, 89-118 (8 FCC Rcd 4236 (1993)), which adopted the industry procedure ANSI standard C63.4 (1992) for measuring unintentional and intentional radiators for compliance with Part 15 of the FCC Rules. Another example is contained in the Report and Order in ET Docket 92-152 (8 FCC Rcd 6772 (1993)), which allows the conditional use of the standards in CISPR Publication 22 for determining compliance with the requirements in Part 15 for digital devices.


6. CPU is defined as a microprocessor, or frequency determining circuitry for the microprocessor, the primary function of which is to execute user-provided programming, but excluding: video cards, printer interface cards and disk driver controller cards.

7. This equipment authorization requirement for components will the same as the equipment authorization of a personal computer which is adopted is finally adopted in this proceeding.