

ITU-T Workshop

“Opportunities and Challenges in Home Networking”

Abstract

Geneva, 13 – 14 October 2005

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Session: Session 6: Electromagnetic Interference in the Home Environment
Title of Presentation: Protection and Safety in the Home Network

The electromagnetic environment in the Home Network is one of the major dimensioning factors for protection and safety issues.

The presentation deals with the characterisation of the electromagnetic environment in the customers' premises and focus on the practices for ensuring the protection of equipment and safety of people.

The following issues related to safety and overvoltage protection of equipment in home networks which are studied by SG5 will be considered:

- Equipment interface classification
- Installation issues
- Protection of home networks
- Risk of damage

Regarding the Equipment interface classification and from a resistibility perspective, the interfaces are classified as internal ports (connected to intra-building cabling only) and external ports (connected to inter-building cabling). The presentation will focus on the need that these two kinds of ports have to be designed to withstand the energy surges that occur into building wiring, on external cables and due to earth potential rise.

From a safety perspective, all equipment connected to a telecommunication network must comply with the IEC 60950 safety standard. To prevent safety issues and reliability problems, care should be taken to only connect circuits to the appropriate equipment interface.

The installation issues will be considered by analyzing the different ways of interconnection of equipment, as occurs in home networks, which may expose the equipment to overvoltage surges.

The protection of home networks will be presented by considering the best locations of protection devices in order to reduce the incidence damage. Advice on the installation of protection will be provided on the basis of the relevant standards.

Finally regarding the risk of damage due to lightning the presentation will focus on the draft standard IEC 62305-2 which provides a method of calculating the risk of loss for a structure due to lightning strikes.