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Electromagnetic compatibility, resistibility and safety requirements for home network devices

Recommendation ITU-T K.74

ITU-T

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Electromagnetic compatibility, resistibility and safety requirements for home network devices

Summary

As a result of the widespread use of the Internet, an increasing number of networks are being installed in customer premises. Many wired and wireless telecommunication technologies have also been introduced in the home, and devices that use these technologies are now being used in close proximity to each other. This situation may cause new types of electromagnetic compatibility (EMC), resistibility and safety problems.

Recommendation ITU-T K.74 provides EMC requirements for home network devices, which may be comprised of many types of equipment. This Recommendation addresses the requirements for home network devices whose main function is telecommunications.

History

Edition	Recommendation	Approval	Study Group	Unique ID*
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Table of Contents

		Page
1	Scope.....	1
2	References.....	1
3	Definitions	2
	3.1 Terms defined elsewhere	2
	3.2 Terms defined in this Recommendation.....	3
4	Abbreviations and acronyms	3
5	Conventions	4
6	Configuration and problems in the home network environment	4
	6.1 Basic architecture of the home network	4
	6.2 Devices in the scope of this Recommendation.....	4
	6.3 EMC problems.....	5
	6.4 Electromagnetic environment in the home.....	5
7	Requirements	6
	7.1 General consideration of requirements.....	6
	7.2 Safety.....	6
	7.3 EMC	6
	7.4 Resistibility.....	6
	7.5 Earthing and bonding	7
	7.6 Specific immunity requirements.....	7
	Appendix I – Trouble case for IPTV broadcasting service over DSL	8
	I.1 Introduction	8
	I.2 Influence of impulse noise in the home for IPTV broadcasting services.....	8
	Appendix II – Degradation of performance of ADSL service caused by REIN.....	10
	II.1 Introduction	10
	II.2 Degradation of ADSL performance caused by REIN from a switch power supply	10
	Appendix III – Network trouble in wide area Ethernet caused by impulse noise	12
	III.1 Degradation of performance of leased line services provided by IP networks	12
	III.2 Immunity test on the media converter	13
	Bibliography.....	15

Introduction

With the rapid growth of broadband and data services, many wired and wireless telecommunication technologies have been proposed, and users can install home networks to which they can connect different kinds of equipment.

This Recommendation provides a way for dealing with EMC problems that may potentially be caused by the development of home network environments, with the purpose of achieving a problem-free operation of home networks.

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Recommendation ITU-T K.74

Electromagnetic compatibility, resistibility and safety requirements for home network devices

1 Scope

With the recent advances in telecommunication technologies, high-speed access networks that can be readily used by users have been introduced in home environments. As a result, many users can now enjoy many network-based services, and many electronic devices can be connected to the network, allowing for the easy deployment of home networks.

Additionally, many wired and wireless technologies have appeared in the market, many of which could be introduced in home network environments. In these network configurations, several kinds of network-related equipment are introduced in the home and placed in close proximity to each other. This situation may create severe electromagnetic interferences and produce new types of electromagnetic compatibility (EMC) problems. The purpose of this Recommendation is to provide EMC, resistibility and safety requirements for home network devices in order to avoid these EMC problems.

To avoid duplication, existing international standards are referenced. This Recommendation is not intended to provide any new additional requirements for devices used in home networks, nor is it intended to replace national regulations or laws.

2 References

The following ITU-T Recommendations and other references contain provisions which, through reference in this text, constitute provisions of this Recommendation. At the time of publication, the editions indicated were valid. All Recommendations and other references are subject to revision; users of this Recommendation are therefore encouraged to investigate the possibility of applying the most recent edition of the Recommendations and other references listed below. A list of the currently valid ITU-T Recommendations is regularly published. The reference to a document within this Recommendation does not give it, as a stand-alone document, the status of a Recommendation.

- [ITU-T J.190] Recommendation ITU-T J.190 (2007), *Architecture of MediaHomeNet*.
<<http://www.itu.int/rec/T-REC-J.190>>
- [ITU-T K.21] Recommendation ITU-T K.21 (2011), *Resistibility of telecommunication equipment installed in customer premises to overvoltages and overcurrents*.
<<http://www.itu.int/rec/T-REC-K.21>>
- [ITU-T K.34] Recommendation ITU-T K.34 (2003), *Classification of electromagnetic environmental conditions for telecommunication equipment – Basic EMC Recommendation*.
<<http://www.itu.int/rec/T-REC-K.34>>
- [ITU-T K.43] Recommendation ITU-T K.43 (2009), *Immunity requirements for telecommunication equipment*.
<<http://www.itu.int/rec/T-REC-K.43>>
- [ITU-T K.44] Recommendation ITU-T K.44 (2012), *Resistibility tests for telecommunication equipment exposed to overvoltages and overcurrents – Basic Recommendation*.
<<http://www.itu.int/rec/T-REC-K.44>>
- [ITU-T K.66] Recommendation ITU-T K.66 (2011), *Protection of customer premises from overvoltages*.
<<http://www.itu.int/rec/T-REC-K.66>>

- [ITU-T K.85] Recommendation ITU-T K.85 (2011), *Requirements for the mitigation of lightning effects on home networks installed in customer premises*
<<http://www.itu.int/rec/T-REC-K.85>>
- [ITU-T K.92] Recommendation ITU-T K.92 (2012), *Conducted and radiated electromagnetic environment in home networking*
<<http://www.itu.int/rec/T-REC-K.92>>
- [ITU-T K.93] Recommendation ITU-T K.93 (2012), *Immunity of home network devices to electromagnetic disturbances*
<<http://www.itu.int/rec/T-REC-K.93>>
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<<https://webstore.iec.ch/publication/6932>>
- [IEC CISPR 13] IEC CISPR 13 ed.5.0 (2009), *Sound and television broadcast receivers and associated equipment – Radio disturbance characteristics – Limits and methods of measurement.*
<<https://webstore.iec.ch/publication/9>>
- [IEC CISPR 20] IEC CISPR 20 ed.6.1 (2013), *Sound and television broadcast receivers and associated equipment – Immunity characteristics – Limits and methods of measurement.*
<<https://webstore.iec.ch/publication/71>>
- [IEC CISPR 22] IEC CISPR 22 ed.6.0 (2008), *Information technology equipment – Radio disturbance characteristics – Limits and methods of measurement.*
<<https://webstore.iec.ch/publication/72>>
- [IEC CISPR 24] IEC CISPR 24 ed.2.0 (2010), *Information technology equipment – Immunity characteristics – Limits and methods of measurement.*
<<https://webstore.iec.ch/publication/22154>>
- [IEC CISPR 32] IEC CISPR 32 (2012), *Electromagnetic Compatibility of Multimedia Equipment – Emission Requirements.*
<<https://webstore.iec.ch/publication/22244>>

3 Definitions

3.1 Terms defined elsewhere

This Recommendation uses the following term defined elsewhere:

3.1.1 MediaHomeNet [ITU-T J.190]: An ITU-T project that includes an architecture and a series of Recommendations that support the delivery of services over home networks. A network that connects multiple elements in a home environment to allow delivery of multi-purpose, multimedia services.