ETSI TR 101 562-2 V1.1.1 (2011-08)

PowerLine Telecommunications (PLT);
MIMO PLT;
Part 2: Measurement Methods and Statistical Results of MIMO PLT EMI

Reference
DTR/PLT-00029

Keywords
MIMO, powerline

ETSI

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Foreword

This Technical Report (TR) has been produced by ETSI Technical Committee Powerline Telecommunications (PLT).

The present document is part 2 of a multi-part deliverable. Full details of the entire series can be found in part 1 [i.9].

Introduction

In order to study and compare MIMO (Multiple Input Multiple Output) characteristics of the LVDN network in different countries the STF 410 (Special Task Force) was set up. The present document is one of three TRs which present the result of the work of STF 410. The work items in ETSI TC PLT dealing with the results of STF 410 are TR 101 562-1 [i.9], the present document and TR 101 562-3 [i.5]. The PLT coupler used to feeding the signals into the LVDN is described in TR 101 562-1 [i.9].

The present document specified the measurement tools, set-up and procedure to record the interference potential of MIMO PLT transmissions.

1 Scope

MIMO PLT EMI review and statistical analysis taking into account such matters as earthing variation, country variation, operator differences, phasing and distribution topologies, domestic, industrial and housing types along with local network loading.

2 References

References are either specific (identified by date of publication and/or edition number or version number) or non-specific. For specific references, only the cited version applies. For non-specific references, the latest version of the reference document (including any amendments) applies.

Referenced documents which are not found to be publicly available in the expected location might be found at http://docbox.etsi.org/Reference.

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2.1 Normative references

The following referenced documents are necessary for the application of the present document.

Not applicable.

2.2 Informative references

The following referenced documents are not necessary for the application of the present document but they assist the user with regard to a particular subject area.

[i.1] Sartenaer, T. & Delogne, P., "Powerline Cables Modelling for Broadband Communications", ISPLC 2001, pp. 331-337.

[i.2] R. Hashmat, P. Pagani, A; Zeddam, T. Chonavel, "MIMO Communications for Inhome PLC Networks: Measurements and Results up to 100 MHz", IEEE International Symposium on Power Line Communications and its Applications (ISPLC), Rio, Brasil, March 2010.

[i.3] A. Schwager, "Powerline Communications: Significant Technologies to become Ready for Integration" Doctoral Thesis at University of Duisburg-Essen, May 2010.

[i.4] ETSI TR 102 175 (V1.1.1): "PowerLine Telecommunications (PLT); Channel characterization and measurement methods".

[i.5] ETSI TR 101 562-3: "Powerline Telecommunications (PLT); MIMO PLT; Part 3: Measurement Methods and Statistical Results of MIMO PLT channels".

[i.6] ETSI TR 102 616 (V1.1.1): "PowerLine Telecommunications (PLT); Report from PlugtestsTM 2007 on coexistence between PLT and short wave radio broadcast; Test cases and results".

[i.7] ITU-R Recommendation BS.1284: "General methods for the subjective assessment of sound quality".

NOTE: See http://stason.org/TULARC/radio/shortwave/08-What-is-SINPO-SIO-Shortwave-radio.html.