

INTERNATIONAL STANDARD

IEC 61000-4-6

2003

AMENDMENT 1
2004-10

BASIC EMC PUBLICATION

Amendment 1

Electromagnetic compatibility (EMC) –

**Part 4-6:
Testing and measurement techniques –
Immunity to conducted disturbances,
induced by radio-frequency fields**

<https://standards.iteh.ai/catalog/standards/iec/1d2bc695-af37-4e46-b9e1-a307c39492db/iec-61000-4-6-2003-amd1-2004>

*This **English-language** version is derived from the original **bilingual** publication by leaving out all French-language pages. Missing page numbers correspond to the French-language pages.*

© IEC 2004 Copyright - all rights reserved

No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from the publisher.

International Electrotechnical Commission, 3, rue de Varembe, PO Box 131, CH-1211 Geneva 20, Switzerland
Telephone: +41 22 919 02 11 Telefax: +41 22 919 03 00 E-mail: inmail@iec.ch Web: www.iec.ch



Commission Electrotechnique Internationale
International Electrotechnical Commission
Международная Электротехническая Комиссия

PRICE CODE

E

For price, see current catalogue

FOREWORD

This amendment has been prepared by subcommittee 77B: High frequency phenomena, of IEC technical committee 77: Electromagnetic compatibility.

The text of this amendment is based on the following documents:

FDIS	Report on voting
77B/426/FDIS	77B/431/RVD

Full information on the voting for the approval of this amendment can be found in the report on voting indicated in the above table.

The committee has decided that the contents of this amendment and the base publication will remain unchanged until the maintenance result date indicated on the IEC web site under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

Page 3

CONTENTS

Add, after Annex E, the following new Annex F:

Annex F (informative) Test set-up for large EUTs

Page 91

Add, after Annex E, the following new Annex F:

Annex F (informative)

Test set-up for large EUTs

F.0 Introduction

The test set-up as described in the main body of the standard (see Clause 7) is not fully sufficient to cover the needs of some large EUTs with cables entering or exiting the EUT at heights greater than 1 m. As the upper frequency of the test signal is 80 MHz, EUT size may be considerable compared to the wavelength, and resonance effects may be present with cables that are connected to such EUTs.

In this case, this annex provides an alternative test method applicable to large EUTs that places the coupling device near to the cable entry, resulting in a small loop area with reduced resonance effects.

Examples of large EUTs to which this annex may apply include, but are not limited to, the following.

- rack-mounted telecommunication switching systems;
- electrical machinery;
- rack-mounted switch and control gear.

F.1 Test set-up for large EUTs

Examples of the test set-up for large EUTs are given in Figures F.1 and F.2.

The elevated ground reference plane shown in Figure F.1 is the reference ground plane for this test set-up. The purpose of the elevated ground reference plane is to reduce the length of cable between the EUT and CDN, thereby controlling or reducing the effects of resonances in the cables.

The size of the elevated ground reference plane shall be large enough to extend a minimum of 0,2 m beyond all CDNs used in the test. The length of cable under test between the EUT and CDN shall be a maximum 0,3 m.

The elevated ground reference plane shall be placed at a height above the main ground plane so that to allow cables from the EUT to pass to the CDNs in a horizontal alignment.

The elevated ground reference plane shall be electrically connected to earth for safety reasons. This connection is not significant from an RF point of view.

NOTE 1 Attention should be taken with the physical construction of the elevated ground reference plane and its support structure to ensure a mechanically safe condition.

The equipment to be tested should be placed on an insulating support of 0,1 m height above the ground plane. In case the equipment is delivered on a transport pallet, and if due to its excessive weight or size it cannot be safely removed from its transport pallet, then the EUT may be left on its pallet for testing even if its height exceeds 0,1 m. In case the equipment, because of size or weight, cannot be elevated 0,1 m, thinner insulation may be used provided the EUT is electrically isolated from the ground plane. Any variation from the standard method of testing shall be recorded in the test report.