

Amendement 2

Appareils de traitement de l'information –
Caractéristiques d'immunité –
Limites et méthodes de mesure

Amendment 2

Information technology equipment –
Immunity characteristics –
Limits and methods of measurement



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FOREWORD

This amendment has been prepared by CISPR subcommittee 1: Electromagnetic compatibility of information technology equipment, multimedia equipment and receivers.

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

FDIS	CISPR/142/FDIS
Report on voting	CISPR/160/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 the base publication and its amendments will remain unchanged until 2004. At this date, the publication will be

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- withdrawn;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

Page 9

2 Normative references

Add, to the existing list, the title of the following standard:

CISPR 20:2002, Sound and television broadcast receivers and associated equipment - immunity characteristics - Limits and methods of measurement

Page 11

3 Definitions

Add, after definition 3.17, on page 15, the following new definition:

3.18

multifunction equipment

information technology equipment in which two or more functions subject to this standard and/or to other standards are provided in the same unit

NOTE Examples of information technology equipment include

- a personal computer provided with a telecommunication function and/or broadcast reception function;
- a personal computer provided with a measuring function, etc.

5 Applicability

Add, after the last paragraph, the following new paragraphs:

Multifunction equipment which is subjected simultaneously to different clauses of this standard and/or other standards shall be tested with each function operated in isolation, if this can be achieved without modifying the equipment internally. The equipment thus tested shall be deemed to have complied with the requirements of all clauses/standards when each function has satisfied the requirements of the relevant clause/standard. For example, a personal computer with a broadcast reception function shall be tested with the broadcast reception function inactivated according to CISPR 24 and then tested with only the broadcast reception function activated according to CISPR 20, if the equipment can operate each function in isolation under normal operation.

For equipment which it is not practical to test with each function operated in isolation, or where the isolation of a particular function would result in the equipment being unable to fulfil its primary function, or where the simultaneous operation of several functions would result in saving measurement time, the equipment shall be deemed to have complied if it meets the provisions of the relevant clause/standard with the necessary functions operated. For example, if a personal computer with a broadcast reception function cannot operate the broadcast reception function in isolation from the computing function, the personal computer may be tested with the computing function and broadcast reception function activated according to CISPR 24 and CISPR 20 with respect to these requirements.

Where an allowance is made excluding specific ports or frequencies or functions in a standard because of different test specification and/or test set-up and/or performance criterion, the allowance may be made when relevant functions within multifunction equipment are tested against a different standard (e.g. excluding of the application of table 2 to an antenna port or excluding of the evaluation of the broadcast function during a measurement of equipment containing the broadcast reception function according to CISPR 24).

6 Conditions during testing

Add, after 6.2, on page 23, the following new subclause:

6.3 Equipment set-up

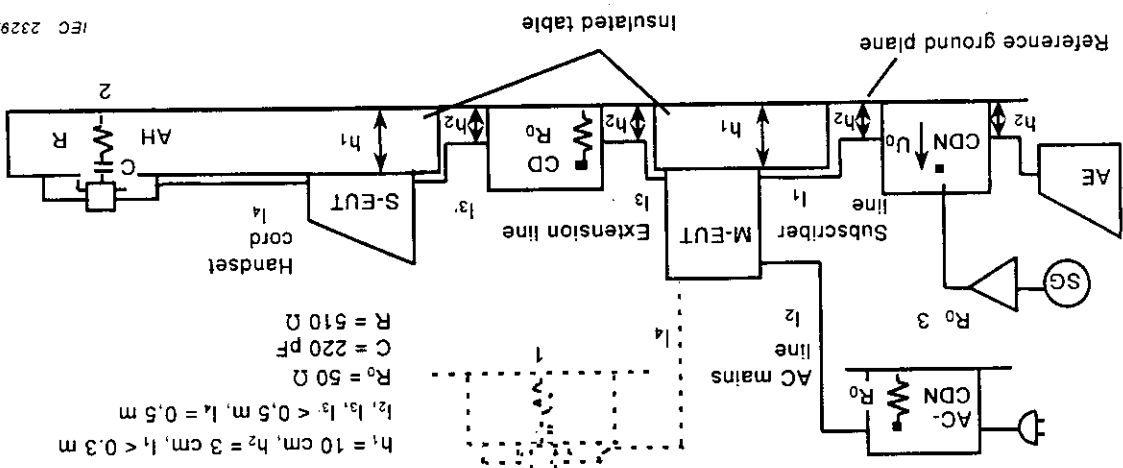
There are several specific test set-ups of ITE for immunity testing, for example test set-up for measuring the demodulated sound pressure level (spl) and the demodulated differential mode signal of telecommunications terminal equipment. In those cases the EUT is recommended to be configured and set up in accordance with Figures A.1 to A.8 of Annex A.

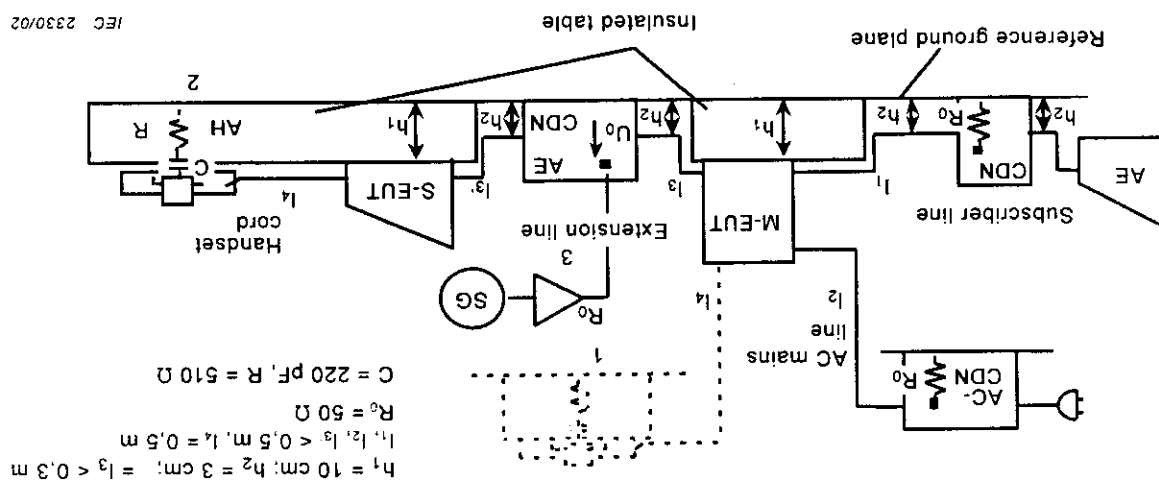
Figures A.1 to A.8 give examples of specific test set-ups appropriate for a small key telephone system. This type of system will typically consist of a main EUT (M-EUT) and a sub-EUT (S-EUT, such as a telephone terminal). The intention here is to test these two parts of the EUT sequentially.

1) CISPR 16-1:1999, Specification for radio disturbance and immunity measuring apparatus and methods - Part 1: Radio disturbance and immunity measuring apparatus

1 If the M-EUT also has a handset, the handset shall be placed and tested in the same way as that of
2 The contact area on the handset is based on Figure 54a of CISPR 16-1).

- IEC 2329/02



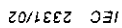


Components

- M-EUT Main equipment under test (key telephone service unit)
- S-EU Sub-equipment under test (key telephone)
- AE Associated equipment (battery feed and telephone terminal)
- CDN Coupling decoupling network
- AH Artificial hand
- SG Signal generator

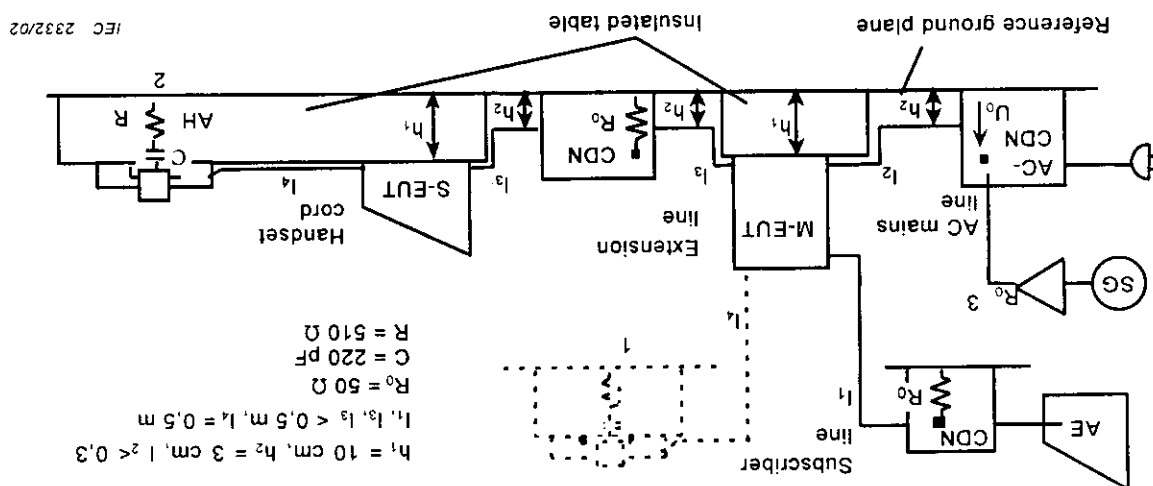
- 1 If the M-EUT also has a handset, the handset shall be placed and tested in the same way as that of the S-EUT.
- 2 The contact area on the handset is based on Figure 54a of CISPR 16-1.
- 3 R_0 is the output impedance of signal generator and is also the terminating impedance of the CDNs.

Figure A.2 – Test set-up for RF continuous immunity testing (EUT: key telephone system; port under test: M-EUT side extension line)



M-EUT	Main equipment under test (key telephone service unit)
S-EUT	Sub-equipment under test (key telephone)
AE	Associated equipment (battery feed and telephone terminal)
CDN	Coupling decoupling network
AH	Artificial hand
SG	Signal generator

- Figure A.3 – Test set-up for RF continuous conducted immunity testing (EUT: key telephone system; port under test: S-EUT side extension line)



IEC 2332/02

Figure A.4 – Test set-up for RF continuous conducted immunity testing (EUT: key telephone system; port under test: AC mains)

- 1 If the M-EUT also has a handset, the handset shall be placed and tested in the same way as that of the S-EUT.
- 2 The contact area on the handset is based on Figure 54a in CISPR 16-1.
- 3 R₀ is the output impedance of signal generator and is also the terminating impedance of the CDNs.

Components

SG Signal generator

AH Artificial hand

CDN Coupling decoupling network

AE Associated equipment (battery feed and telephone terminal)

S-EUT Sub-equipment under test (key telephone)

M-EUT Main equipment under test (key telephone service unit)

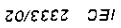
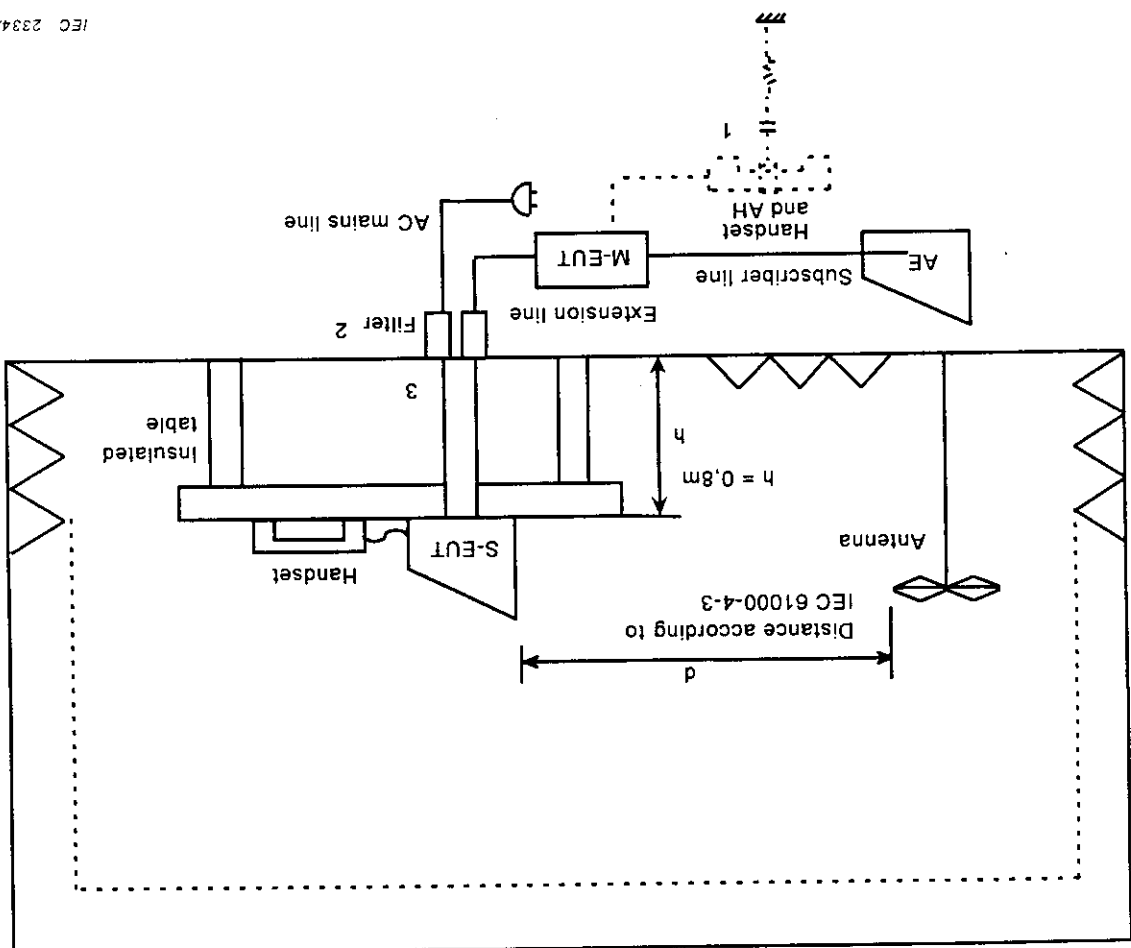


Figure A.5 – Test set-up for RF electromagnetic field immunity testing (EUT: M-EUT of key telephone system; port under test; enclosure)



IEC 2334/02

Components

- M-EUT Main equipment under test (key telephone service unit)
 S-EUT Sub-equipment under test (key telephone)
 AE Associated equipment (battery feed and telephone terminal)
 AH Artificial hand

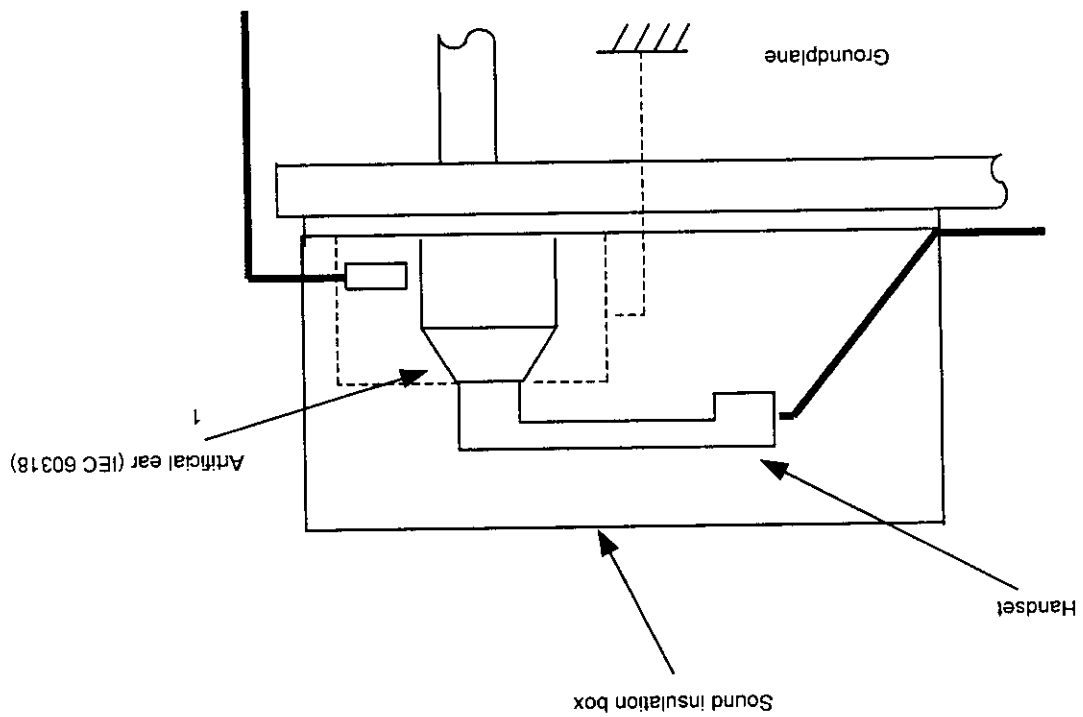
- 1 If the M-EUT also has a handset, the handset shall be placed and tested in the same way as that of the S-EUT.
- 2 This filter shall be set above the ground plane or metal plane of the chamber. The filter shall be chosen according to IEC 61000-4-6.
- 3 Exposed cable shall be illuminated in accordance with the method shown in IEC 61000-4-3.

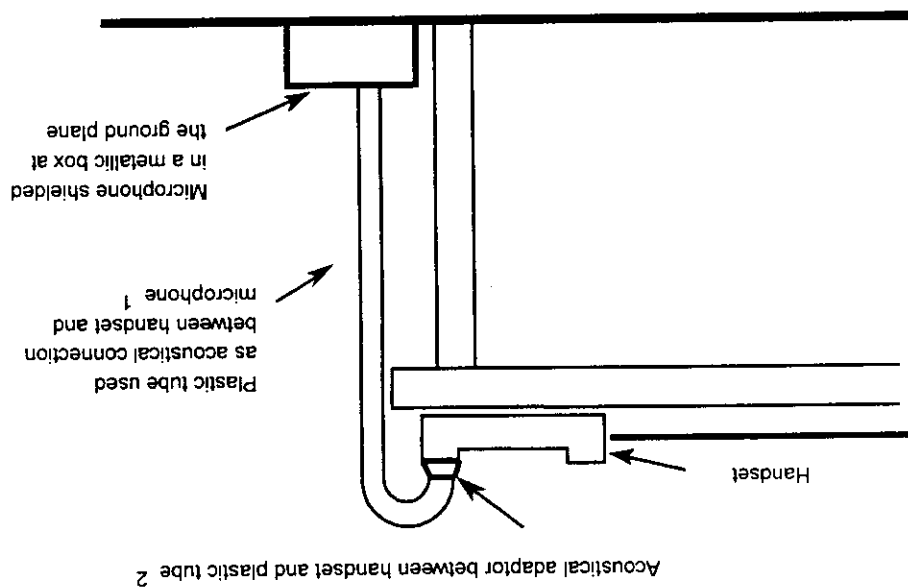
Figure A.6 – Test set-up for RF electromagnetic field immunity testing
 (EUT: S-EUT of key telephone system; port under test: enclosure)

Figure A.7 – Sound coupling set-up between the acoustic device of a telephone and an artificial ear for detecting demodulated sound pressure level

1 When used during radiated immunity test, the artificial ear requires shielding. This shielding shall be removed during conducted immunity test.

IEC 2335/02





- Key**
- 1 Ordinary plastic tube might be OK. Acoustical properties are compensated out by the calibration procedure. Inner and outer diameter is 15 mm and 19 mm, respectively (typical). Total length of plastic tube is 1.5 m (typical).
 - 2 Conically formed adaptor which is connected acoustically to the various forms of handsets with some type of soft rubber. This stable coupling of the handset to the acoustical tube should not be changed between the calibration and the measurement.

Figure A.8 – Test set-up for measuring the reference sound pressure level from the acoustic receiving device of a telephone (relating to measurement method 2 of Annex A)