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colour inside

Integrated circuits – Measurement of electromagnetic emissions~~, 150 kHz to 1 Ghz~~ –
Part 4: Measurement of conducted emissions – 1 Ω/150 Ω direct coupling method

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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INTEGRATED CIRCUITS – MEASUREMENT OF ELECTROMAGNETIC EMISSIONS~~,~~ ~~150 kHz TO 1 GHz~~ –

Part 4: Measurement of conducted emissions – 1 Ω/150 Ω direct coupling method

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IEC 61967-4 has been prepared by subcommittee 47A: Integrated circuits, of IEC technical committee 47: Semiconductor devices. It is an International Standard.

This second edition cancels and replaces the first edition published in 2002 and Amendment 1:2006. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

a) frequency range of 150 kHz to 1 GHz has been deleted from the title;
b) recommended frequency range for 1 Ω method has been reduced to 30 MHz;
c) Annex G with recommendations and guidelines for frequency range extension beyond 1 GHz has been added.

The text of this International Standard is based on the following documents:

Draft	Report on voting
47A/1101/CDV	47A/1107/RVC

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

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/standardsdev/publications.

A list of all parts of the IEC 61967 series, under the general title *Integrated circuits – Measurement of electromagnetic emissions* can be found on the IEC website.

Future standards in this series will carry the new general title as cited above. Titles of existing standards in this series will be updated at the time of the next edition.

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INTEGRATED CIRCUITS – MEASUREMENT OF ELECTROMAGNETIC EMISSIONS~~,~~ ~~150 kHz TO 1 GHz~~ –

Part 4: Measurement of conducted emissions – 1 Ω/150 Ω direct coupling method

1 Scope

This part of IEC 61967 specifies a method to measure the conducted electromagnetic emission (EME) of integrated circuits by direct radio frequency (RF) current measurement with a 1 Ω resistive probe and RF voltage measurement using a 150 Ω coupling network. These methods ~~guarantee~~ ensure a high degree of ~~repeatability~~ reproducibility and correlation of EME ~~measurements~~ measurement results.

~~IEC 61967-1 specifies general conditions and definitions of the test methods.~~

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 61000-4-6, *Electromagnetic compatibility (EMC) – Part 4-6: Testing and measurement techniques – Immunity to conducted disturbances, induced by radio-frequency fields*

IEC 61967-1, *Integrated circuits – Measurement of electromagnetic emissions~~, 150 kHz to 1 GHz~~ – Part 1: General conditions and definitions*

~~CISPR 16-1-1, *Specification for radio disturbance and immunity measuring apparatus and methods – Part 1-1: Radio disturbance and immunity measuring apparatus – Measuring apparatus*~~

~~CISPR 16-1-2, *Specification for radio disturbance and immunity measuring apparatus and methods – Part 1-2: Radio disturbance and immunity measuring apparatus – Ancillary equipment – Conducted disturbances*~~

~~CISPR 16-1-3, *Specification for radio disturbance and immunity measuring apparatus and methods – Part 1-3: Radio disturbance and immunity measuring apparatus – Ancillary equipment – Disturbance power*~~

~~CISPR 16-1-4, *Specification for radio disturbance and immunity measuring apparatus and methods – Part 1-4: Radio disturbance and immunity measuring apparatus – Ancillary equipment – Radiated disturbances*~~

~~CISPR 16-1-5, *Specification for radio disturbance and immunity measuring apparatus and methods – Part 1-5: Radio disturbance and immunity measuring apparatus – Antenna calibration test sites for 30 MHz to 1 000 MHz*~~

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Edition 2.0 2021-03

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Integrated circuits – Measurement of electromagnetic emissions – Part 4: Measurement of conducted emissions – 1 Ω/150 Ω direct coupling method

Circuits intégrés – Mesure des émissions électromagnétiques – Partie 4: Mesure des émissions conduites – Méthode par couplage direct 1 Ω/150 Ω



IEC 61967-4:2021-03(en-fr)

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INTEGRATED CIRCUITS – MEASUREMENT OF ELECTROMAGNETIC EMISSIONS –

Part 4: Measurement of conducted emissions – 1 Ω/150 Ω direct coupling method

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Part 4: Measurement of conducted emissions – 1 Ω/150 Ω direct coupling method

1 Scope

This part of IEC 61967 specifies a method to measure the conducted electromagnetic emission (EME) of integrated circuits by direct radio frequency (RF) current measurement with a 1 Ω resistive probe and RF voltage measurement using a 150 Ω coupling network. These methods ensure a high degree of reproducibility and correlation of EME measurement results.

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IEC 61967-1, *Integrated circuits – Measurement of electromagnetic emissions – Part 1: General conditions and definitions*

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COMMISSION ÉLECTROTECHNIQUE INTERNATIONALE

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CIRCUITS INTÉGRÉS – MESURE DES ÉMISSIONS ÉLECTROMAGNÉTIQUES –

Partie 4: Mesure des émissions conduites – Méthode par couplage direct 1 Ω/150 Ω

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La Norme internationale IEC 61967-4 a été établie par le sous-comité 47A: Circuits intégrés, du comité d'études 47 de l'IEC: Dispositifs à semiconducteurs.

Cette deuxième édition annule et remplace la première édition parue en 2002 et l'Amendement 1:2006. Cette édition constitue une révision technique.

Cette édition inclut les modifications techniques majeures suivantes par rapport à l'édition précédente:

a) la gamme de fréquences de 150 kHz à 1 GHz a été supprimée du titre;
b) la gamme de fréquences recommandée pour la méthode à 1 Ω a été réduite à 30 MHz;

c) l'Annexe G avec les recommandations et les lignes directrices pour l'extension de gamme de fréquences au-dessus de 1 GHz a été ajoutée.

Le texte de cette Norme internationale est issu des documents suivants:

Projet	Rapport de vote
47A/1101/CDV	47A/1107/RVC

Le rapport de vote indiqué dans le tableau ci-dessus donne toute information sur le vote ayant abouti à son approbation.

La langue utilisée pour le développement de la présente Norme internationale est l'anglais.

Ce document a été rédigé selon les Directives ISO/IEC, Partie 2, il a été développé selon les Directives ISO/IEC, Partie 1 et les Directives ISO/IEC, Supplément IEC, disponibles sous www.iec.ch/members_experts/refdocs. Les principaux types de documents développés par l'IEC sont décrits plus en détail sous www.iec.ch/standardsdev/publications.

Une liste de toutes les parties de la série IEC 61967, sous le titre général *Circuits intégrés – Mesure des émissions électromagnétiques* peut être consultée sur le site web de l'IEC.

Les futures normes de cette série porteront dorénavant le nouveau titre général cité ci-dessus. Le titre des normes existant déjà dans cette série sera mis à jour lors de la prochaine édition.

Le comité a décidé que le contenu de ce document ne sera pas modifié avant la date de stabilité indiquée sur le site web de l'IEC sous webstore.iec.ch dans les données relatives au document recherché. À cette date, le document sera

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CIRCUITS INTÉGRÉS – MESURE DES ÉMISSIONS ÉLECTROMAGNÉTIQUES –

Partie 4: Mesure des émissions conduites – Méthode par couplage direct 1 Ω/150 Ω

1 Domaine d'application

La présente partie de l'IEC 61967 spécifie une méthode de mesure de l'émission électromagnétique (EME) conduite des circuits intégrés par mesure directe des courants RF avec une sonde résistive de 1 Ω et mesure des tensions RF en utilisant un réseau de couplage de 150 Ω. Ces méthodes assurent un degré élevé de reproductibilité, ainsi que la corrélation des résultats des mesures EME.

2 Références normatives

Les documents suivants sont cités dans le texte de sorte qu'ils constituent, pour tout ou partie de leur contenu, des exigences du présent document. Pour les références datées, seule l'édition citée s'applique. Pour les références non datées, la dernière édition du document de référence s'applique (y compris les éventuels amendements).

IEC 61000-4-6, *Compatibilité électromagnétique (CEM) – Partie 4-6: Techniques d'essai et de mesure – Immunité aux perturbations conduites, induites par les champs radioélectriques*

IEC 61967-1, *Circuits intégrés – Mesure des émissions électromagnétiques – Partie 1: Conditions générales et définitions*