IEC 62228-3

Edition 1.0 2019-03

INTERNATIONAL STANDARD

NORME INTERNATIONALE

colour inside

Integrated circuits – EMC evaluation of transceivers –
Part 3: CAN transceivers

Circuits intégrés – Évaluation de la CEM des émetteurs-récepteurs –
Partie 3: Émetteurs-récepteurs CAN

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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INTEGRATED CIRCUITS – EMC EVALUATION OF TRANSCEIVERS –

Part 3: CAN transceivers

FOREWORD

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International Standard IEC 62228-3 has been prepared by subcommittee 47A: Integrated circuits, of IEC technical committee 47: Semiconductor devices.

This first edition cancels and replaces the first edition of IEC TS 62228 published in 2007 and constitutes a technical revision.

This edition includes the following significant technical changes with respect to IEC TS 62228:

a) introduction of CAN transceivers with partial networking functionality and CAN transceivers with flexible data rate capability and addition of operation modes and test descriptions in the respective subclauses of the document;
b) introduction of minimal communication network with two CAN transceivers;
c) update of the test requirements and targets in Annex C;
d) addition of Annex D for common mode choke characterization.

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

CDV	Report on voting
47A/1050/CDV	47A/1069/RVC

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

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts in the IEC 62228 series, published under the general *title Integrated circuits – EMC evaluation of transceivers*, can be found on the IEC website.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC website under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

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- replaced by a revised edition, or
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INTEGRATED CIRCUITS – EMC EVALUATION OF TRANSCEIVERS –

Part 3: CAN transceivers

1 Scope

This part of IEC 62228 specifies test and measurement methods for EMC evaluation of CAN transceiver ICs under network condition. It defines test configurations, test conditions, test signals, failure criteria, test procedures, test setups and test boards. It is applicable for CAN standard transceivers, CAN transceivers with partial networking functionality and CAN transceivers with flexible data rate capability and covers

- the emission of RF disturbances,
- the immunity against RF disturbances,
- the immunity against impulses, and
- the immunity against electrostatic discharges (ESD).

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

IEC 61967-4, *Integrated circuits – Measurement of electromagnetic emissions, 150 kHz to 1 GHz – Part 4: Measurement of conducted emissions – 1 Ω/150 Ω direct coupling method*

IEC 62132-1, *Integrated circuits – Measurement of electromagnetic immunity – Part 1: General conditions and definitions*

IEC 62132-4, *Integrated circuits – Measurement of electromagnetic immunity 150 kHz to 1 GHz – Part 4: Direct RF power injection method*

IEC 62215-3, *Integrated circuits – Measurement of impulse immunity – Part 3: Non-synchronous transient injection method*

IEC 62228-1, *Integrated circuits – EMC evaluation of transceivers – Part 1: General conditions and definitions*

ISO 7637-2, *Road vehicles – Electrical disturbances from conduction and coupling – Part 2: Electrical transient conduction along supply lines only*

ISO 10605, *Road vehicles – Test methods for electrical disturbances from electrostatic discharge*

ISO 11898-1, *Road vehicles – Controller area network (CAN) – Part 1: Data link layer and physical signalling*

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