SLOVENSKI STANDARD
SIST EN 60747-16-1:2004/A2:2017

01-julij-2017

Polprevodniške naprave - 16-1. del: Mikrovalovna integrirana vezja - Ojačevalniki - Dopolnilo A2 (IEC 60747-16-1:2001/A2:2017)

Semiconductor devices - Part 16-1: Microwave integrated circuits - Amplifiers (IEC 60747-16-1:2001/A2:2017)

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Ta slovenski standard je istoveten z: **EN 60747-16-1:2002/A2:2017**

ICS:

31.080.01	Polprevodniški elementi (naprave) na splošno	Semiconductor devices in general
31.200	Integrirana vezja, mikroelektronika	Integrated circuits. Microelectronics

SIST EN 60747-16-1:2004/A2:2017 **en**

2003-01.Slovenski inštitut za standardizacijo. Razmnoževanje celote ali delov tega standarda ni dovoljeno.

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 60747-16-1:2002/A2

May 2017

ICS 31.080.99

English Version

Semiconductor devices -
Part 16-1: Microwave integrated circuits - Amplifiers
(IEC 60747-16-1:2001/A2:2017)

Dispositifs à semiconducteurs -
Partie 16-1: Circuits intégrés hyperfréquences -
Amplificateurs
(IEC 60747-16-1:2001/A2:2017)

Halbleiterbauelemente -
Teil 16-1: Integrierte Mikrowellen-Verstärker
(IEC 60747-16-1:2001/A2:2017)

This amendment A2 modifies the European Standard EN 60747-16-1:2002; it was approved by CENELEC on 2017-03-22. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this amendment the status of a national standard without any alteration.

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CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

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Ref. No. EN 60747-16-1:2002/A2:2017 E

SIST EN 60747-16-1:2004/A2:2017

European foreword

The text of document 47E/500/CDV, future IEC 60747-16-1:2001/A2, prepared by SC 47E "Discrete semiconductor devices" of IEC/TC 47 "Semiconductor devices" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 60747-16-1:2002/A2:2017.

The following dates are fixed:

• latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	2017-12-22
• latest date by which the national standards conflicting with the document have to be withdrawn	(dow)	2020-03-22

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC shall not be held responsible for identifying any or all such patent rights.

Endorsement notice

The text of the International Standard IEC 60747-16-1:2001/A2:2017 was approved by CENELEC as a European Standard without any modification.

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SIST EN 60747-16-1:2004/A2:2017

Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE 1 When an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cenelec.eu

Replace the existing references to IEC 60617, IEC 60747-1, IEC 60747-4, IEC 61340-5-1 and IEC 61340-5-2, including modifications done by A1 as follows:

Publication	Year	Title	EN/HD	Year
IEC 60617-DB	-	Graphical symbols for diagrams	-	-
IEC 60747-1	2006	Semiconductor devices - Part 1: General	-	-
+A1	2010		-	-
IEC 60747-4	2007	Semiconductor devices - Discrete devices - Part 4: Microwave diodes and transistors	-	-
+A1	2017		-	-
IEC 61340-5-1	-	Electrostatics - Part 5-1: Protection of electronic devices from electrostatic phenomena - General requirements	EN 61340-5-1	-
IEC/TR 61340-5-2	-	Electrostatics - Part 5-2: Protection of electronic devices from electrostatic phenomena - User guide	CLC/TR 61340-5-2	-

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Replace the existing reference to IEC 60748-3 as follows:

IEC 60748-3	1986	Semiconductors devices - Integrated circuits - Part 3: Analogue integrated circuits	-	-
+A1	1991		-	-
+A2	1994		-	-

Delete the existing references to IEC 60747-7:2000, IEC 60747-16-2:2001 and IEC 60747-16-4:2004

Add the following new reference:

IEC 60050-702	-	International electrotechnical vocabulary (IEV) - Chapter 702: Oscillations, signals and related devices	-	-

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IEC 60747-16-1

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INTERNATIONAL STANDARD

NORME INTERNATIONALE

AMENDMENT 2
AMENDEMENT 2

Semiconductor devices –
Part 16-1: Microwave integrated circuits – Amplifiers

Dispositifs à semiconducteurs –
Partie 16-1: Circuits intégrés hyperfréquences – Amplificateurs

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FOREWORD

This amendment has been prepared by subcommittee 47E: Discrete semiconductor devices, of IEC technical committee 47: Semiconductor devices.

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

CDV	Report on voting
47E/500/CDV	47E/518/RVC

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

CONTENTS

Replace the titles of Clause 3, Subclauses 5.7 and 5.18 with the following new titles:

3 Terms and definitions
5.7 Limiting output power ($P_{\text{o(ltg)}}$) and limiting output power flatness ($\Delta P_{\text{o(ltg)}}$)
5.18 Power added efficiency (η_{add})

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Replace the titles of Subclauses 5.11, 5.19, 5.21, including the amendments brought to them by Amendment 1, with the following new titles:

SIST EN 60747-16-1:2004/A2:2017
https://standards.iteh.ai/catalog/standards/sist/9b2484ba-f21b-4e05-92ab-d6093363f5b9/sist-en-60747-16-1-2004-a2-2017

5.11 Intermodulation distortion (two-tone) (P_{n}/P_1)
5.19 nth order harmonic distortion ratio (P_{nth}/P_1)
5.21 Spurious intensity under specified load VSWR ($P_{\text{sp}}/P_{\text{o}}$)

Replace the title of Subclause 5.22 added by Amendment 1 with the following new title:

5.22 Adjacent channel power ratio ($P_{\text{adj}}/P_{\text{o(mod)}}$)

2 Normative references

Replace the existing references IEC 60617, IEC 60747-1, IEC 60747-4, IEC 61340-5-1 and IEC 61340-5-2 including the amendments brought to them by Amendment 1 as follows:

IEC 60617, *Graphical symbols for diagrams* (available at: <http://std.iec.ch/iec60617>)

IEC 60747-1:2006, *Semiconductor devices – Part 1: General*
IEC 60747-1:2006/AMD1:2010

IEC 60747-4:2007, *Semiconductor devices – Discrete devices – Part 4: Microwave diodes and transistors*
IEC 60747-4:2007/AMD1:2017

IEC 61340-5-1, *Electrostatics – Part 5-1: Protection of electronic devices from electrostatic phenomena – General requirements*

SIST EN 60747-16-1:2004/A2:2017

IEC TR 61340-5-2, *Electrostatics – Part 5-2: Protection of electronic devices from electrostatic phenomena – User guide*

Replace the existing reference IEC 60748-3 as follows:

IEC 60748-3:1986, *Semiconductor devices – Integrated circuits – Part 3: Analogue integrated circuits*
IEC 60748-3:1986/AMD1:1991
IEC 60748-3:1986/AMD2:1994

Delete the existing reference to IEC 60747-7:2000:

IEC 60747-7:2000, Semiconductor devices – Part 7: Bipolar transistors

Delete the references IEC 60747-16-2 and IEC 60747-16-4 added by Amendment 1:

IEC 60747-16-2:2001, *Semiconductor devices – Part 16-2: Microwave integrated circuits – Frequency prescalers*

IEC 60747-16-4:2004, *Semiconductor devices – Part 16-4: Microwave integrated circuits – Switches*

Add the new reference IEC 60050-702:

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IEC 60050-702, *International Electrotechnical Vocabulary – Chapter 702: Oscillations, signals and related devices* (available at: http://www.electropedia.org)

SIST EN 60747-16-1:2004/A2:2017
https://standards.iteh.ai/catalog/standards/sist/9b2484ba-f21b-4e05-92ab-d6093363f5b9/sist-en-60747-16-1-2004-a2-2017

3 Terminology

Replace the clause title with the following new title and introductory paragraph:

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

Replace entries 3.7, 3.14, and 3.16, including the amendments brought to them by Amendment 1, with the following new entries:

3.7
intermodulation distortion
P_n/P_1
ratio of the nth order component of the output power to the fundamental component of the output power

Note 1 to entry: The abbreviation "IMD_n" is in common use for the nth order intermodulation distortion.

SOURCE: IEC 60747-4:2007/AMD1:2017, 7.2.19.

3.14
***n*th order harmonic distortion ratio**
P_{nth}/P_1
ratio of the power of the nth order harmonic component measured at the output port of the device to the power of the fundamental frequency measured at the output port