

INTERNATIONAL STANDARD

IEC
60966-2-4

Second edition
2003-03

Radio frequency and coaxial cable assemblies –

Part 2-4:

**Detail specification for cable assemblies
for radio and TV receivers - Frequency range
0 to 3 000 MHz, IEC 61169-2 connectors**

*Ensemble de cordons coaxiaux et de cordons
pour fréquences radioélectriques –*

Partie 2-4:

*Spécification particulière pour cordons de connexion
de récepteurs TV ou radio – Bande de fréquences
de 0 à 3 000 MHz, connecteurs CEI 61169-2*



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INTERNATIONAL ELECTROTECHNICAL COMMISSION

RADIO FREQUENCY AND COAXIAL CABLE ASSEMBLIES –

Part 2-4: Detail specification for cable assemblies for radio and TV receivers – Frequency range 0 to 3 000 MHz, IEC 61169-2 connectors

FOREWORD

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International Standard IEC 60966-2-4 has been prepared by subcommittee 46A: Coaxial cables, of IEC technical committee 46: Cables, wires, waveguides, r.f. connectors, r.f. and microwave passive components and accessories.

This second edition cancels and replaces the first edition published in 1997, of which it constitutes a technical revision.

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

FDIS	Report on voting
46A/508/FDIS	46A/541/RVD

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.

The committee has decided that the contents of this publication will remain unchanged until 2006. At this date, the publication will be

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- withdrawn;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

A bilingual version of this standard may be issued at a later date.

INTRODUCTION

This detail specification applies to flexible coaxial cables described in IEC 60096-2. It relates to cable assemblies for radio and TV receivers, and in particular to the cable subfamily 9,52.

This detail specification should be used together with the following IEC publications.

IEC 60966-1:1999, *Radio frequency and coaxial cable assemblies — Part 1: Generic specification – General requirements and test methods*

IEC 60966-2-1:1991, *Radio frequency and coaxial cable assemblies – Part 2-1: Sectional specification for flexible coaxial cable assemblies*

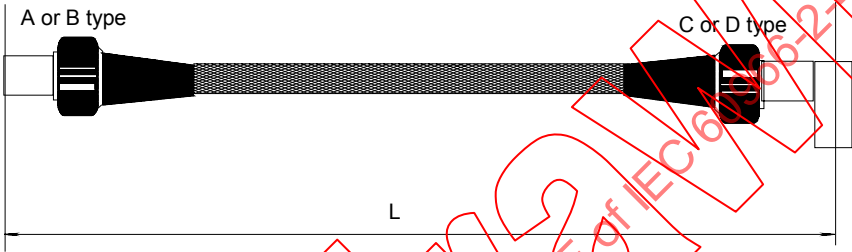
IEC 60966-2-2:1992, *Radio frequency and coaxial cable assemblies – Part 2-2: Blank detail specification for flexible coaxial cable assemblies*

IEC 61169-2:2001, *Radio frequency connectors – Part 2: Sectional specification – Radio frequency coaxial connectors of type 9,52*

IEC 60410:1973, *Sampling plans and procedures for inspection by attributes*

IEC 61022:1989, *Interconnection of radio and TV receivers to feeder system outlets*

IEC 61196-1:1995, *Radio-frequency cables – Part 1: Generic specification – General, Definitions, requirements and test methods*

[1] Prepared by IEC SC 46A				[2] Document No 60966-2-4 Issue: Second issue Date: 21/03/03																															
[3] Available from: IEC 3 rue de Varembe Genève Suisse		[4] Generic specification: IEC 60966-1 Sectional specification: IEC 60966-2-1 Blank detail specification: IEC 60966-2-2																																	
[5] Additional references:																																			
Detail specification for coaxial cable assemblies for radio and TV receivers																																			
																																			
[6]		[7] Characteristic impedance: 75 Ω																																	
[9] Weight: 40 g/m + 50 g (typically)		[8] Frequency range: 0 to 3000 MHz																																	
		[10] Minimum inside radius: for static bending 25 mm for dynamic bending 75 mm																																	
[11] Climatic category: 40/70/21		[12] Applicable test group: Ba, Eb, Eh, Ee, Mn																																	
<table><tr><td>[13]</td><td>a</td><td>b</td><td>c</td><td>d</td></tr><tr><td>Connector type:</td><td>IEC 61169-2 (9,52) Straight plug</td><td>IEC 61169-2 (9,52) Straight socket</td><td>IEC 61169-2 (9,52) Right-angled plug</td><td>IEC 61169-2 (9,52) Right-angled socket</td></tr><tr><td>Cable type:</td><td>IEC 61196-6 (UD) 75 yy or equivalent</td><td>IEC 61196-6 (UD) 75 yy or equivalent</td><td>IEC 61196-6 (UD) 75 yy or equivalent</td><td>IEC 61196-6 (UD) 75 yy or equivalent</td></tr><tr><td>UD (under development)</td><td></td><td></td><td></td><td></td></tr><tr><td>Marking:</td><td>Optional</td><td>Optional</td><td>Optional</td><td>Optional</td></tr><tr><td>Taper sleeves:</td><td colspan="4">On both ends (colour optional)</td></tr></table>						[13]	a	b	c	d	Connector type:	IEC 61169-2 (9,52) Straight plug	IEC 61169-2 (9,52) Straight socket	IEC 61169-2 (9,52) Right-angled plug	IEC 61169-2 (9,52) Right-angled socket	Cable type:	IEC 61196-6 (UD) 75 yy or equivalent	IEC 61196-6 (UD) 75 yy or equivalent	IEC 61196-6 (UD) 75 yy or equivalent	IEC 61196-6 (UD) 75 yy or equivalent	UD (under development)					Marking:	Optional	Optional	Optional	Optional	Taper sleeves:	On both ends (colour optional)			
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Taper sleeves:	On both ends (colour optional)																																		
[14] Variants 1 A-A 2 A-B 3 A-C 4 A-D					[15] Page 1 of 3 pages																														

[16] Inspection values, ratings or characteristics	[17] Clause	[18] Value	[19] Remarks
Electrical			
<i>Reflection properties</i>	8.1	> 20 dB > 15 dB > 12 dB > 10 dB	5 MHz to 400 MHz 400 MHz to 862 MHz 862 MHz to 1 GHz 1 GHz to 3 GHz
<i>Operational attenuation (Insertion loss)</i>	8.3	< 0,08 + 0,4 dB/m	up to 1 GHz
<i>Screening effectiveness:</i>			
<i>Transfer impedance Class A</i>	12.1, 12.2 of IEC 61196-1 further tests UC (under consideration)	5 mΩ/m	5 MHz
<i>Class B</i>		UC	
<i>Screening attenuation Class A</i>		> 85 dB	30 MHz to 1 GHz
<i>Class B</i>	8.9 (further tests UC)	> 85 dB > 75 dB > 55 dB	1 GHz to 3 GHz 30 MHz to 1 GHz 1 GHz to 3 GHz
<i>Voltage proof</i>	8.10	1,0 kV	50 Hz peak value
<i>Insulation resistance</i>	8.11	10 ⁵ MΩ	Test voltage 500 V
<i>Inner and outer conductor continuity</i>	8.12	OK	Low voltage DC
Mechanical			
<i>Tensile</i>	9.1	45 N	Interface OK Duration 1 min Test 8.12
<i>Flexure</i>	9.2	500 cycles	Force 5 N 20/min Test 8.9
<i>Flexing endurance</i>	9.3	20 cycles	Test 8.12 and 8.9
<i>Cable assembly crushing</i>	9.4	700 N	Test 8.3

Under qualification approval, the qualification shall be conducted in accordance with 13.3 of IEC 60966-2-1 taking into account the specified variants. Only the tests whose results might depend on the variants shall be repeated.

Under capability approval, the qualification shall be conducted on the relating CQCs as defined in 13.4 of IEC 60966-2-1 and described in the capability manual (CM). Unless otherwise specified in the CM, only lot by lot tests from groups Ba and Eb shall be conducted on delivered products, all other tests shall be performed on CQCs as defined in 13.4 of IEC 60966-2-1 and described in the CM.

Recommended grouping of test			Recommended severity					[27] Length of specimen
[20] Group	[21] Clause	Test	[22] Periodicity	[23] IL	[24] AQL	[25] <i>n</i>	[26] <i>c</i>	
<i>Ba</i>	7.2	<i>Visual inspection</i>	lot by lot	S3	4.0			
	7.3	<i>Dimensional inspection</i>	lot by lot	S3	4.0			
<i>Eh</i>	8.1	<i>Reflection properties</i>	lot by lot	II	1.0			
	8.3	<i>Insertion loss</i>	lot by lot	II	1.0			
<i>Eb</i>	8.10	<i>Voltage proof</i>	lot by lot	II	1.0			
	8.11	<i>Insulation resistance</i>	lot by lot	II	1.0			
	8.12	<i>Inner and outer conductor continuity</i>	lot by lot	III	1.0			
<i>Ee</i>	8.9	<i>Screening attenuation</i> <i>Transfer impedance</i>	1 year	I		1	0	
<i>Mn</i>	9.1	<i>Tensile</i>	3 years			3	0	On a CQC variant(e) 1 l = 300 mm
	9.2	<i>Flexure</i>	3 years					
	9.3	<i>Flexing endurance</i>	3 years					
	9.4	<i>Cable assembly crushing</i>	3 years					