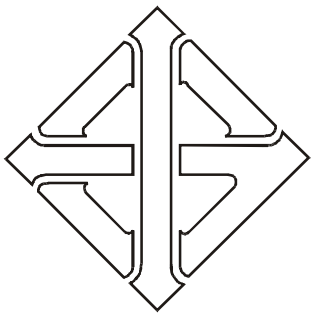

มาตรฐานผลิตภัณฑ์อุตสาหกรรม

THAI INDUSTRIAL STANDARD

มอก. 1613 – 2552

IEC 61169 – 2(2007)

ขั้วต่อสำหรับใช้ในงานรับส่งคลื่นความถี่วิทยุ

เล่ม 2 ขั้วต่อร่วมแกนแบบ 9,52

RADIO-FREQUENCY CONNECTORS

PART 2 : SECTIONAL SPECIFICATION - RADIO FREQUENCY COAXIAL CONNECTORS TYPE 9,52

สำนักงานมาตรฐานผลิตภัณฑ์อุตสาหกรรม

กระทรวงอุตสาหกรรม

ICS 31.220.10

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มาตรฐานผลิตภัณฑ์อุตสาหกรรม
ขั้วต่อสำหรับใช้ในงานรับส่งคลื่นความถี่วิทยุ
เล่ม 2 ขั้วต่อร่วมแกนแบบ 9,52

มอก. 1613 – 2552

สำนักงานมาตรฐานผลิตภัณฑ์อุตสาหกรรม
กระทรวงอุตสาหกรรม ถนนพระรามที่ 6 กรุงเทพฯ 10400
โทรศัพท์ 02 202 3300

ประกาศในราชกิจจานุเบกษา ฉบับประกาศและงานทั่วไป เล่ม 128 ตอนพิเศษ 36ง
วันที่ 29 มีนาคม พุทธศักราช 2554

มาตรฐานผลิตภัณฑ์อุตสาหกรรมขั้วต่อสำหรับใช้ในงานรับส่งคลื่นความถี่วิทยุ เล่ม 2 ขั้วต่อร่วมแกนชนิดไม่เข้าคู่ ได้ประกาศใช้ครั้งแรกโดยรับ IEC 169-2 (1965) Radio-frequency Connectors Part 2: Coaxial Unmatched Television Aerial Feeder Coonector มาใช้ในระดับเหมือนกันทุกประการ (Identical) โดยใช้ IEC ฉบับภาษาอังกฤษเป็นหลัก โดยประกาศในราชกิจจานุเบกษา ฉบับประกาศทั่วไป เล่มที่ 116 ตอนพิเศษที่ 108ง วันที่ 27 ธันวาคม พุทธศักราช 2542

เนื่องจากIECได้แก้ไขปรับปรุงมาตรฐาน IEC 169-2(1965) เป็น IEC 61169-2 (2007) จึงได้ยกเลิกมาตรฐานเดิม และกำหนดมาตรฐานใหม่โดยรับ IEC 61169-2 (2007) Radio-Frequency Connectors Part 2: Sectional specification-Radio Frequency coaxial connectors type 9, 52 มาใช้ในระดับเหมือนกันทุกประการโดยใช้มาตรฐาน IEC ฉบับภาษาอังกฤษเป็นหลัก

คณะกรรมการมาตรฐานผลิตภัณฑ์อุตสาหกรรมได้พิจารณามาตรฐานนี้แล้ว เห็นสมควรเสนอรัฐมนตรีประกาศตามมาตรา 15 แห่งพระราชบัญญัติมาตรฐานผลิตภัณฑ์อุตสาหกรรม พ.ศ. 2511

ประกาศกระทรวงอุตสาหกรรม

ฉบับที่ 4289(พ.ศ. 2553)

ออกตามความในพระราชบัญญัติมาตรฐานผลิตภัณฑ์อุตสาหกรรม

พ.ศ. 2511

เรื่อง ยกเลิกมาตรฐานผลิตภัณฑ์อุตสาหกรรม

ขั้วต่อสำหรับใช้ในงานรับส่งคลื่นความถี่วิทยุ

เล่ม 2 ขั้วต่อร่วมแกนชนิดไม่เข้าคู่

และกำหนดมาตรฐานผลิตภัณฑ์อุตสาหกรรม

ขั้วต่อสำหรับใช้ในงานรับส่งคลื่นความถี่วิทยุ

เล่ม 2 ขั้วต่อร่วมแกนแบบ 9,52

โดยที่เป็นการสมควรปรับปรุงมาตรฐานผลิตภัณฑ์อุตสาหกรรม ขั้วต่อสำหรับใช้ในงานรับส่งคลื่นความถี่วิทยุ เล่ม 2 ขั้วต่อร่วมแกนชนิดไม่เข้าคู่ มาตรฐานเลขที่ มอก.1613-2541

อาศัยอำนาจตามความในมาตรา 15 แห่งพระราชบัญญัติมาตรฐานผลิตภัณฑ์อุตสาหกรรม พ.ศ. 2511 รัฐมนตรีว่าการกระทรวงอุตสาหกรรมออกประกาศยกเลิกประกาศกระทรวงอุตสาหกรรม ฉบับที่ 2523 (พ.ศ.2542) ออกตามความในพระราชบัญญัติมาตรฐานผลิตภัณฑ์อุตสาหกรรม พ.ศ.2511 เรื่อง กำหนดมาตรฐานผลิตภัณฑ์อุตสาหกรรม ขั้วต่อสำหรับใช้ในงานรับส่งคลื่นความถี่วิทยุ เล่ม 2 ขั้วต่อร่วมแกนชนิดไม่เข้าคู่ ลงวันที่ 26 สิงหาคม พ.ศ.2542 และออกประกาศกำหนดมาตรฐานผลิตภัณฑ์อุตสาหกรรม ขั้วต่อสำหรับใช้ในงานรับส่งคลื่นความถี่วิทยุ เล่ม 2 ขั้วต่อร่วมแกนแบบ 9,52 มาตรฐานเลขที่ มอก.1613-2552 ขึ้นใหม่ ดังมีรายละเอียดต่อท้ายประกาศนี้

ทั้งนี้ให้มีผลตั้งแต่วันถัดจากวันที่ประกาศในราชกิจจานุเบกษา เป็นต้นไป

ประกาศ ณ วันที่ 30 ธันวาคม พ.ศ. 2553

ชัยวุฒิ บรรณวัฒน์

รัฐมนตรีว่าการกระทรวงอุตสาหกรรม

มาตรฐานผลิตภัณฑ์อุตสาหกรรม
ขั้วต่อสำหรับใช้ในงานรับส่งคลื่นความถี่วิทยุ
เล่ม 2 ขั้วต่อร่วมแกนแบบ 9,52

มาตรฐานผลิตภัณฑ์อุตสาหกรรมนี้กำหนดขึ้นโดยรับ IEC 61169-2 (2007) Radio-Frequency Connectors Part 2: Sectional specification-Radio Frequency coaxial connectors type 9, 52 มาใช้ในระดับเหมือนกันทุกประการ (identical) โดยใช้ IEC ฉบับภาษาอังกฤษเป็นหลัก

มาตรฐานอุตสาหกรรมนี้ ซึ่งเป็นข้อกำหนดคุณลักษณะเป็นรายเรื่อง (SS) ให้ข้อมูลและกฎสำหรับการเตรียมข้อกำหนดรายละเอียด (DS) สำหรับขั้วต่อสำหรับใช้ในงานรับส่งคลื่นความถี่วิทยุเล่ม 2 ขั้วต่อร่วมแกนแบบ 9,52

มาตรฐานอุตสาหกรรมนี้กำหนดขนาดมิติของผิวสัมผัสสำหรับขั้วต่อเกรด2 ที่ใช้ในงานทั่วไป, รายละเอียดเชิงมิติสำหรับขั้วต่อเกรด0 ที่ใช้ในงานทดสอบมาตรฐาน นอกจากนี้ยังประกอบด้วยข้อมูลการวัด และการทดสอบที่กำหนดจากมาตรฐาน IEC 61169-1 และยังครอบคลุมข้อกำหนดรายละเอียด (DS) ที่เกี่ยวกับเล่ม 2 ขั้วต่อร่วมแกนแบบ 9,52

ข้อกำหนดนี้ระบุถึงคุณลักษณะของสมรรถนะที่แนะนำ ซึ่งถูกพิจารณาเมื่อเขียนข้อกำหนดรายละเอียด(DS) และครอบคลุมถึงตารางทดสอบ และข้อกำหนดสำหรับการตรวจสอบ

รายละเอียดให้เป็นไปตาม IEC 61169-2(2007)

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CONTENTS

INTERNATIONAL ELECTROTECHNICAL COMMISSION

RADIO-FREQUENCY CONNECTORS –

Part 2: Sectional specification – Radio frequency coaxial connectors of type 9,52

FOREWORD

1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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International Standard IEC 61169-2 Ed: 2.0 has been prepared by subcommittee 46F: R.F. and microwave passive components, 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 2001. It constitutes a technical revision.

The main change introduced in this edition is that the maximum frequency is now 3 GHZ.

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

FDIS	Report on voting
46F/56/FDIS	46F/66/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.

A list of all parts of the IEC 61169 series, published under the general title *Radio-frequency connectors,* can be found on the IEC website.

The QC number that appears on the front cover of this publication is the specification number in the IEC Quality Assessment System for Electronic Components (IECQ).

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

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

A bilingual edition of this document may be issued at a later date.

RADIO-FREQUENCY CONNECTORS –

Part 2: Sectional specification – Radio frequency coaxial connectors type 9,52

1 Scope

This part of IEC 61169, which is a sectional specification (SS), provides information and rules for the preparation of detail specifications (DS) for RF coaxial connectors of type 9,52.

It describes the interface dimensions for general purpose grade 2 connectors, dimensional details for standard test connectors, grade 0, together with gauging information and the mandatory tests selected from IEC 61169-1, applicable to all DS relating to type 9,52 connectors.

This specification indicates the recommended performance characteristics to be considered when writing a DS and covers test schedules and inspection requirements.

2 Normative references

The following referenced documents are indispensable for the application 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 61169-1:1992, *Radio-frequency connectors – Part 1: Generic specification – General requirements and measuring methods*

3 Interface dimensions

3.1 Interface

3.1.1 General

All dimensions are in millimetres.

All undimensioned pictorial configurations are for reference purposes only.

3.1.2 Dimensions

Figures 1, 2 and 3 provide dimensions for sliding connectors, screw coupling connectors and standard test connectors respectively.

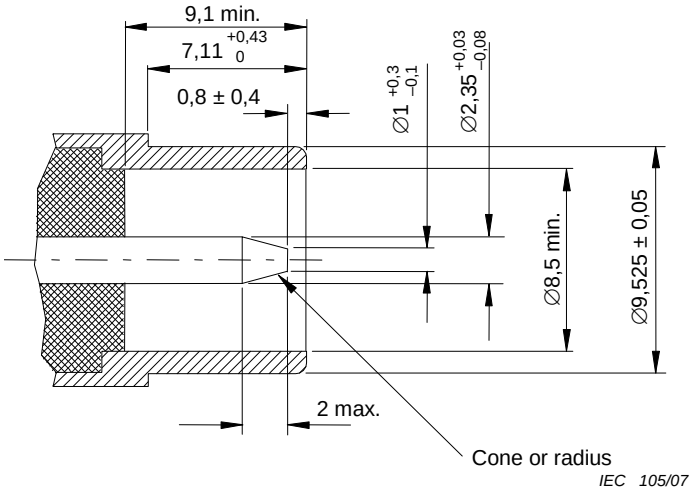


Figure 1a – Sliding male connector

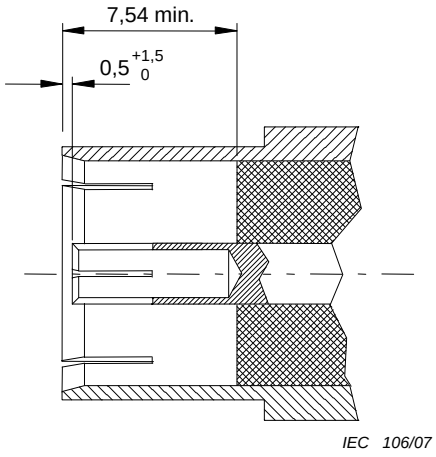


Figure 1b – Sliding female connector

Figure 1 – Sliding connector

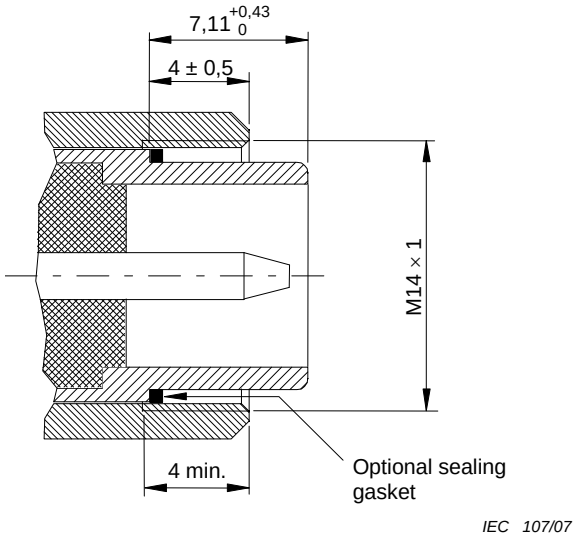


Figure 2a – Screw coupling male connector

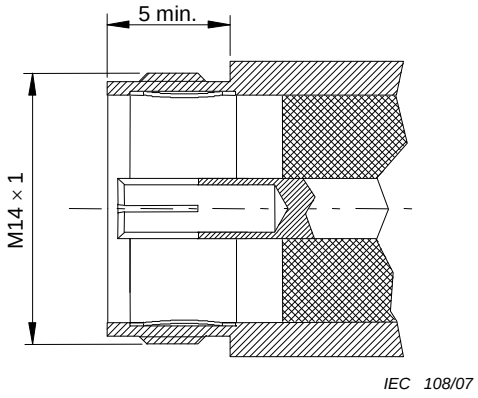


Figure 2b – Screw coupling female connector

Figure 2 – Screw coupling connector

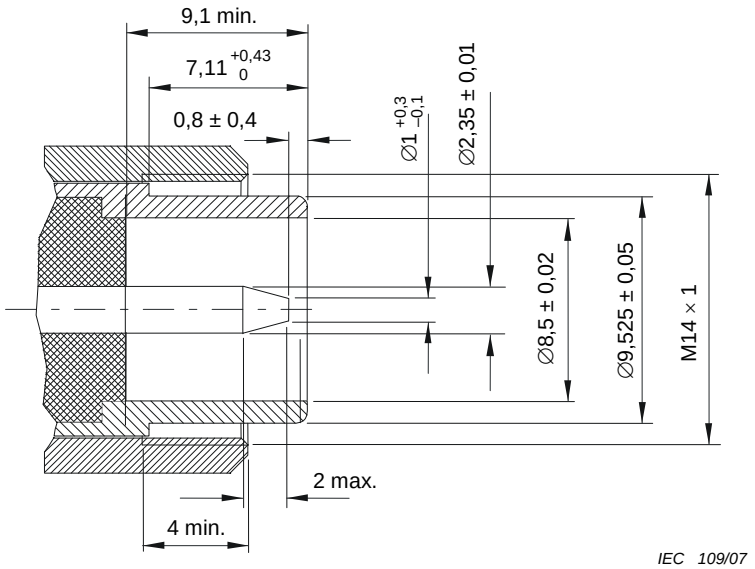


Figure 3a – Standard test male connector

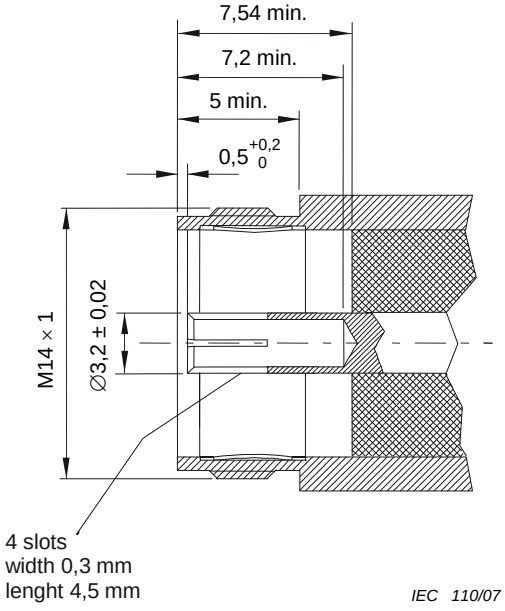


Figure 3b – Standard test female connector

Figure 3 – Standard test connectors

3.2 Mechanical gauges

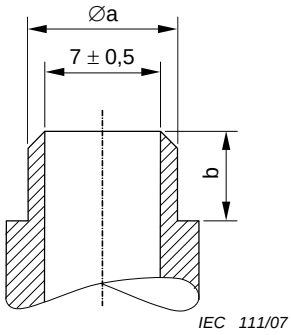
3.2.1 General

All dimensions are in millimetres.

All undimensioned pictorial configurations are for reference purposes only.

3.2.2 Socket connectors – Gauges for the resilient outer contact

Figure 4 illustrates gauge pins for outer contacts of socket connectors.



Surface finish: Ra <=0,5

Weight: 5 N

Reference	Gauge A mm		Gauge B mm	
	Min.	Max.	Min.	Max.
∅ a	9,575	9,585	9,465	9,475
b	5,0	5,2	7,0	7,2

Test sequence

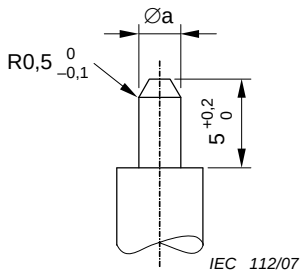
a) Steel test pin (A) (Figure 4) shall be inserted at least three times into the outer contact.
b) A second steel test pin (B) (Figure 4) shall be inserted into the outer contact.

This gauge, when in a vertical downward attitude, shall be retained by the contact.

Figure 4 – Gauge pins for outer contact of socket connector

3.2.3 Socket connectors – Gauges for the resilient centre contact

Figure 4 illustrates gauge pins for outer contacts of socket connectors.



Surface finish: Ra <=0,5

Reference	Gauge C mm		Gauge D mm	
	Min.	Max.	Min.	Max.
∅ a	2,38	2,39	2,29	2,30

Test sequence

a) Steel test pin (C) (Figure 5) shall be inserted at least three times into the centre contact.

b) A second steel test pin (D) (Figure 5) shall be inserted into the centre contact.

This gauge, when in a vertical downward attitude, shall be retained by the contact.

This gauge will have a mass (weight) of 0,25 N.

Figure 5 – Gauge pins for centre contact of socket connector

4 Quality assessment procedures

4.1 General

The following subclauses provide recommended ratings, performance and test conditions to be considered when writing a detail specification (DS). They also provide an appropriate schedule of tests with minimum levels of conformance inspection.

4.2 Ratings and characteristics

The RF connectors defined in this standard are designed for use with a variety of flexible and semi-rigid coaxial cables and in microwave integrated circuits and similar uncabled applications. Table 1 lists the ratings and characteristics involved.

Table 1 – Ratings and characteristics

Ratings and characteristics	IEC 61169-1 subclause	Value	Remarks including any deviations from standard test methods
Electrical			
Nominal impedance			Shall meet the requirements of 9.2.1.1 of IEC 61169-1 when terminating a Z_c = 75 Ω cable
Frequency range		0-3 GHZ	See DS
Reflection factor	9.2.1		
– straight styles [a]		7% up to 2 GHZ 10% up to 3 GHZ	
– right angle styles			See DS
– solder bucket and PCB mounting style			Under consideration
Centre contact resistance	9.2.3		
– initial		≤ 5 mΩ	
– after conditioning		≤ 10 mΩ	
Outer conductor continuity			
– initial		≤ 2,0 mΩ	
– after conditioning		≤ 2,5 mΩ	
Insulation resistance	9.2.5		
– initial		> 1 GΩ	
– after conditioning		> 1 MΩ	
Proof voltage at sea level [b c]	9.2.6	750 V	86 kPa - 106 kPa
Screening effectiveness	9.2.8	$a_s \geq 90$ dB	Z_t
Discharge test (Corona)	9.2.9	na	
Mechanical			
Gauge retention force (resilient contacts)	9.3.4		See 3.2 of IEC 61169-1
Contact captivation	9.3.5		
– axial force		30 N	Captivated contacts only
– torque		na	
Engagement and separation	9.3.6		Screw coupling connectors
Coupling torque			To overcome friction of a coupling nut
– friction		0,066 Nm max.	
– coupling		0,46 Nm to 0,69 Nm	
– proof		1,7 Nm	
Mechanical tests on cable			
– cable pulling	9.3.8	120 N	
– cable torsion	9.3.10	0,1 Nm	
Tensile strength of coupling mechanism	9.3.11	300 N	
Bending moment	9.3.12	2 Nm	Relative to reference plane
Environmental			
Vibration	9.3.3	98 m/s² 10 Hz to 500 Hz	10 g acceleration
Climatic sequence	9.4.2	40/70/21	
Sealing	9.4.5	1 cm^3/h max	100 kPa - 110 kPa pressure
Salt mist	9.4.6	48 h	
Endurance			
Mechanical	9.5	1 000 cycles	
High temperature	9.6	1 000 h	

[a] These values apply to basic connectors. They depend on the cable used. Relevant values are given in the DS.
[b] Voltage values are r.m.s. values at 50 Hz – 60 Hz, unless otherwise specified.
[c] Cables used with these connectors may have values of lower performance than those given in this table.

4.3 Test schedule and inspection requirements

4.3.1 Acceptance tests

Table 2 indicates the various acceptance tests, methods and assessment criteria involved.

Table 2 – Acceptance tests

	Test method IEC 61169-1 subclause	Assessment level M (higher)				Assessment level H (lower)			
		Test Required	IL	AQL %	Period	Test Required	IL	AQL %	Period
Group A1									
Visual examination	9.1.2	a	II	1,0		A	S3	1,5	
Group B1									
Outline dimensions	9.1.3.1	a	S4	0,4		A	S3	4,0	
Mechanical compatibility	9.1.3.3	a	II	1,0		A	S3	1,5	
Engagement and separation	9.3.6	a	S4	0,40	Lot	A	S3	1,5	Lot
Gauge retention (resilient contact)	9.3.4	ia	II	1,0		Ia	S3	1,5	
Sealing, non-hermetic	9.4.5.1	ia	II	0,65	by	ia	S3	1,0	by
Sealing, hermetic	9.4.5.2	ia	II	0,015		ia	S3	0,025	
Voltage proof	9.2.6	a	S4	0,40	lot	a	II	4,0	lot
Solderability piece parts	9.3.2.1.1	ia	S4	0,40		ia	S3	4,0	
Insulation resistance	9.2.5	a	S4	0,40		a	S3	4,0	

NOTE Details of symbols, abbreviations and procedures:

a = suggested as applicable

ia = test suggested (if technically applicable)

IL = Inspection Level

AQL = Acceptable Quality Level

(d) = destructive tests – specimens shall not be returned to stock

4.3.2 Periodic tests

Table 3 indicates the various periodic tests, methods and assessment criteria involved.

There are no group C tests for levels H and M.

Table 3 – Periodic tests

	Test method IEC 61169-1 subclause	Assessment level M (higher)				Assessment level H (lower)			
		Test required	Number of specimens	Permitted failures per group#	Period	Test required	Number of specimens	Permitted failures per group#	Period
Group D1 (d)			6	1	3 years		3	1	3 years
Solderability connector assemblies	9.3.2.1.1	ia				ia			
Resistance to soldering heat	9.3.2.1.2	ia				ia			
Mechanical tests on cable fixing									
– cable rotation (nutation)	9.3.7.2	ia				ia			
– cable pulling	9.3.8	ia				ia			
– cable bending	9.3.9	ia				ia			
– cable torsion	9.3.10	ia				ia			
Group D2 (d)			6	1	3 years		3	1	3 years
Contact resistance, outer conductor and screen continuity centre conductor continuity	9.2.3	a				a			
Vibration	9.3.3	a							
Damp heat, steady state	9.4.3	a				a			
Group D3 (d)			1*	1	3 years		1*	1	3 years
Dimensions piece-parts and materials	9.1.3.2	a				a			
Group D4 (d)			6	1	3 years		3	1	3 years
Mechanical endurance	9.5	a				a			
High temperature endurance	9.6	a				a			
Sulphur dioxide	9.4.8	na				na			
Group D5 (d)			6	1	3 years		3	1	3 years
Reflection factor	9.2.1	a				a			
Screening effectiveness	9.2.8	a				a			
Water immersion	9.2.7	ia				ia			
Group D6 (d)			6	1	3 years		3	1	3 years
Contact captivation	9.3.5	a				a			
Rapid change of temperature	9.4.4	na				na			
Climatic sequence	9.4.2	a				a			

Table 3 (*continued*)

	Test method IEC 61169-1 subclause	Assessment level M (higher)				Assessment level H (lower)			
		Test required	Number of specimens	Permitted failures per group#	Period	Test required	Number of specimens	Permitted failures per group#	Period
Group D7 (d)			1§		3 years		1		3 years
Resistance to solvents and contaminating fluids	9.7	ia				ia			

Details of symbols, abbreviations and procedures:

a = suggested as applicable

ia = test suggested (if technically applicable)

na = not applicable

IL = Inspection Level

AQL = Acceptable Quality Level

* = one set of piece-parts each style and variant, unless using common piece parts

= for Qualification Approval (QA) a total of two failures only permitted for level H and 1 failure only for level M from groups D1 to D7

§ = Group D7 – number of pairs for each solvent

(d) = destructive tests – specimens shall not be returned to stock

4.4 Procedures

4.4.1 Quality conformance inspection

This shall consist of test groups A1 and B1 on a lot-by-lot basis.

4.4.2 Qualification approval and its maintenance

This shall consist of three consecutive lots passing test groups A1 and B1 followed by selection of specimens from the lots as appropriate. These specimens shall successfully pass the specified periodic D tests.

5 Instructions for preparation of detail specifications

5.1 General

Detail specifications (DS) writers shall use the appropriate BDS pro-forma. The following pages comprise the pro-forma BDS dedicated for use with 75 Ω type 9,52 connectors. As such, it will already have entered on it information relating to

a) the basic specification number applicable to all the detail specifications covering connector styles of the type covered by the sectional specification;

b) the connector series designation.

The specification writer should enter the details relating to the connector style/variant(s) to be covered as indicated. The numbers in brackets on the BDS pro-forma correspond to the following indications which shall be given.

5.2 Identification of the detail specification

(1) The name of the National Standards Organization (NSO) under whose authority the DS is published and, if applicable, the organization from whom the DS is available.

(2) The relevant mark of conformity and the number allotted to the DS by the relevant national or international organization authorizing the DS

(3) The number and issue number of the IEC/IECQ generic or sectional specification as relevant; also national reference if different.

(4) If different from the IEC/IECQ number, any national number of the DS, date of issue and any further information required by the national system, together with any amendment numbers.

5.3 Identification of the component

(5) Enter the following details:

Style: The style designation of the connector including type of fixing and sealing, if applicable.

Attachment: By deletion of the inapplicable options of cable/wire: given for centre and outer conductors.

Special features and markings: As applicable.

(6) Enter details of assessment level and the climatic category.

(7) A reproduction of the outline drawing and details of the panel piercing, if applicable. It shall provide the maximum envelope dimensions, also the position of the reference plane and, in the case of a fixed connector, the position of the mounting plane(s) relative to the front face of the connector.

Any maximum panel thickness limitations for fixed connectors shall be stated.

(8) Particulars of all variants covered by the DS. As appropriate, the information shall include:

- cable types (or sizes) applicable to each variant;
- alternative plated or protective finishes;
- details of alternative mounting flanges having either tapped or plain mounting holes;
- details of alternative solder spills or solder buckets including, when applicable, those for use with Microwave Integrated Circuit (MIC) components.

5.4 Performance

(9) Performance data listing the most important characteristics of the connector taking into account the recommended values in 4.2. of this specification. Deviations from the minimum requirements shall be clearly indicated. Non-applicable parameters shall be marked ‘na’.

5.5 Marking, ordering information and related matters

(10) Insert marking and ordering information as appropriate, together with details of related documents and any invoked structural similarity.

5.6 Selection of tests, test conditions and severities

(11) ‘na’ shall be used to indicate non-applicable tests. All tests marked ‘a’ by the detail specification writer shall be mandatory.

When using the normal procedure with a dedicated BDS, the letter ‘a’ – for applicable – shall be entered in the ‘Test required’ column against each of the tests indicated as being mandatory in the test schedule as in 4.3 of this specification. Any additional tests required at the discretion of the specification writer shall also be indicated by an ‘a’.

The specification writer shall also indicate, when necessary, details of deviations from the standard test methods and test conditions, including any relevant deviations given in the test schedule of the sectional specification.

The qualification approval and conformance inspection shall be such that the National Supervising Inspectorate (NSI) shall be satisfied that they are appropriate and in line with those for other connectors within the system providing a reasonably comparable service.

5.7 Blank detail specification pro-forma for type 9,52 connector

The following pages contain the complete BDS pro-forma.

<table>
<tr><td>(1)</td><td colspan="6">Page 1 of 10

QC 220201</td></tr>
<tr><td colspan="2">ELECTRONIC COMPONENT OF ASSESSED QUALITY IN ACCORDANCE WITH
GENERIC SPECIFICATION QC 220000
SECTIONAL SPECIFICATION QC 220200
NATIONAL REFERENCE</td><td colspan="5">(4) ISSUE

.....

.....</td></tr>
<tr><td colspan="4">(5) Detail specification for
Radio frequency coaxial connector of assessed quality</td><td colspan="3">type 9,52</td></tr>
<tr><td colspan="2">Style:.....</td><td colspan="5">Special features and markings</td></tr>
<tr><td colspan="3">Method of cable/wire+ attachment</td><td colspan="4">centre conductor – solder/crimp+
outer conductor – solder/clamp/crimp +
+ delete as appropriate</td></tr>
<tr><td colspan="2">(6) Assessment level.....</td><td colspan="2">Characteristic impedance 75 Ω</td><td colspan="3">Climatic category..../.../.../</td></tr>
<tr><td colspan="3">(7) Outline and maximum dimensions</td><td colspan="4">Panel piercing and mounting details</td></tr>
<tr><td colspan="7">(8) Variants

Variant No. Description of variant 60096 IEC

01..... ....
....
....
....
....
....
....
....
....</td></tr>
<tr><td colspan="7">Information about manufacturers who have components qualified to this detail specification is available in the current QC 001005 Qualified Product List.</td></tr>
</table>

(9) Performance (including limiting conditions of use)

Ratings and characteristics		IEC 61169-1 (QC 220000) Subclause	Value	Remarks including any deviations from standard test methods
Electrical				
Nominal impedance			75 Ω	
Frequency range			0 GHz – 3 GHZ	Measurement frequency range
Reflection factor		9.2.1		
	Variant No. Designation 01.....		....	....
Centre contact resistance		9.2.3	≤ .....mΩ ≤.....mΩ	Initial After conditioning
Centre conductor continuity	01.....	9.2.3	.....mΩ .....mΩ .....mΩ .....mΩ	Resistance change due to conditioning
Outer contact continuity		9.2.3	≤ .....mΩ ≤.....mΩ	Initial After conditioning
Insulation resistance		9.2.5	≥.....GΩ ≥.....GΩ	Initial After conditioning
#+ Proof voltage at sea level	01.....	9.2.6	.....kV .....kV .....kV .....kV	86 kPa – 106 kPa
#+ Proof voltage at 4,4 kPa	01.....		.....V .....V .....V V	.....kPa (if not 4,4 kPa)
#+ Environment test voltage at sea level	01.....		.....V .....V .....V V	86-106 kPa
Environment test voltage at 4,4 kPa	01.....		.....V .....V .....V V	.....kPa (if not 4,4 kPa)
Screening effectiveness	01.....	9.2.8	≥ dB at....GHz	Z_t≤.....Ω
ADDITIONAL ELECTRICAL CHARACTERISTICS				
+ Voltage values are r.m.s. values at 50 Hz – 60 Hz, unless otherwise specified.				

Ratings and characteristics		IEC 61169-1 (QC 220000) Subclause	Value	Remarks including any deviations from standard test methods
Mechanical				
Soldering - bit size		9.3.2.1.1	.....	
Gauge retention resilient contacts - inner contact - outer contact		9.3.4.3	.....	
Centre contact captivation - axial force - permitted displacement each direction		9.3.5	.....N .....mm	
Engagement and separation - axial force		9.3.6		
Effectiveness of cable fixing against				
- cable rotation	01.....	9.3.7.2	Rotations	
- cable pulling	01.....	9.3.8	.....N	
- cable bending	01.....	9.3.9	.....Cycles	Length of cable mass ....
- cable torsion	01.....	9.3.10	.....Nm	
Bending moment		9.3.12	.....Nm	Relative to reference plane
Vibration		9.3.3	.....m/s² .....to....Hz	(..... g_n acceleration)
ADDITIONAL MECHANICAL CHARACTERISTICS				

Ratings and characteristics	IEC 61169-1 (QC 220000) Subclause	Value	Remarks including any deviations from standard test methods
Environmental			
Climatic category		...../...../.....	
Sealing non-hermetically sealed connectors	9.4.5.1	.....cm^3/h	100 kPa – 110 kPa pressure differential
Sealing hermetically sealed connectors	9.4.5.2	10^{-5} $bar/cm^3/h$	100 kPa – 110 kPa pressure differential
Water immersion	9.2.7		
ADDITIONAL ENVIRONMENTAL CHARACTERISTICS			
ENDURANCE			
Mechanical	9.5	.....operations	
High temperature	9.6	.....h at.....°C	
ADDITIONAL ENDURANCE CHARACTERISTICS			
CHEMICAL CONTAMINATION			
Resistance to solvents and contaminating fluids to be used.	9.7	....	
Applicable fluids.			
Sulphur dioxide	9.4.8		

(10) Supplementary information

– Marking of the component: in accordance with 11.1 of IEC 61169-1 (QC 220000) in the following order of preference:

1) Manufacturer code: .....
2) Manufacturing date code: year/week
3) Component identification: Variant No./Identification
   Designation
   .....
   .....
   .....
   .....
   .....
   .....
   .....
   .....

– Marking and contents of package: in accordance with 11.2 of IEC 61169-1

1) Information prescribed in 11.1 of IEC 61169-1 detailed above
2) Nominal characteristic impedance .....75 Ω.....
3) Assessment level code letter .....
4) Any additional marking required .....

– Ordering information

1)	Number of the detail specification	IECQC 220201 / Variant code..
2)	Assessment level code letter	.....
3)	Body finish (if more than one listed)	.....
4)	Any additional information or special requirements	.....

– Related documents (if not included in IEC *6*1169-1 or sectional specification):

.....

.....

– Structural similarity in accordance with 10.2.2 IEC *6*1169-1

NOTE Relevant information on a basic style should be entered as variant 01.