IEC/PAS 61169-42

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PUBLICLY AVAILABLE SPECIFICATION

PRE-STANDARD

Radio-frequency connectors –
Part 42: Sectional specification for CQN series quick lock RF coaxial connectors

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FOREWORD

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8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.

A PAS is a technical specification not fulfilling the requirements for a standard, but made available to the public.

IEC-PAS 61169-42 has been processed by subcommittee 46F: RF and microwave passive components, of IEC technical committee 46: Cables, wires, waveguides, R.F. connectors, R.F. and microwave passive components and accessories.

The text of this PAS is based on the following document:	This PAS was approved for publication by the P-members of the committee concerned as indicated in the following document
Draft PAS	**Report on voting**
46F/102/PAS	46F/113/RVD

Following publication of this PAS, which is a pre-standard publication, the technical committee or subcommittee concerned may transform it into an International Standard.

This PAS shall remain valid for an initial maximum period of 3 years starting from the publication date. The validity may be extended for a single 3-year period, following which it shall be revised to become another type of normative document, or shall be withdrawn.

INTRODUCTION

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CHINA Pat. ZL200620046522.6

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RADIO-FREQUENCY CONNECTORS –

Part 42: Sectional specification for CQN series quick lock RF coaxial connectors

1 Scope

CQN series quick lock RF coaxial connectors with impedance 50 Ω are used in microwave, telecommunication, wireless and other fields, connecting with R.F. cables or micro-strips. The operating frequency limit is up to 11 GHz.

This PAS, which is a sectional specification, provides information and rules for the preparation of detail specifications for CQN series R.F. coaxial connectors together with the pro-forma blank detail specification.

It also prescribes mating face dimensions for general connectors-grade 2, dimensional details of standard test connectors-grade 0, gauging information and tests selected from IEC 61169-1, applicable to all detail specifications relating to CQN series connectors.

This specification indicates the recommended performance characteristics to be considered when writing a detail specification and it covers test schedules and inspection requirements for assessment levels M and H.

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*[1)]

Amendment 1(1996)
Amendment 2 (1997)

3 Mating face and gauge information

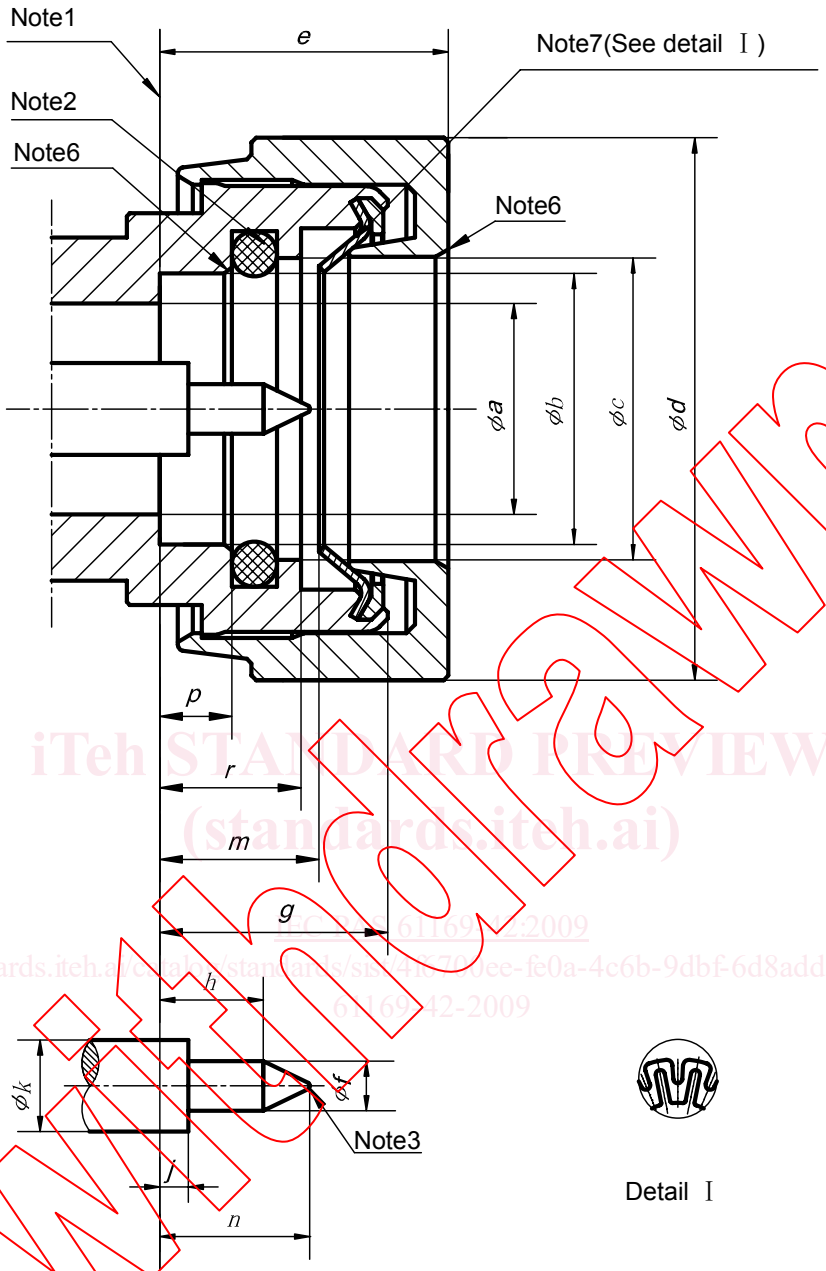
3.1 Dimensions-General connectors – Grade 2

3.1.1 Connector with pin-centre contact

Metric dimension are original dimensions.

All undimensioned pictorial configurations are for reference purpose only.

1) There exists a consolidated edition 1.2 (1998) that comprises IEC 61169-1, its Amendment 1 and its Amendment 2.



NOTE For dimensions and notes, see Table 1.

Figure 1 – Connector with pin-centre contact

Table 1 – Dimensions of connector with pin-centre contact

Ref.	mm		Notes
	Min.	Max.	
a	7,00 nominal		Note 4
b	9,05	—	
c	10,05	—	
d	—	19,00	
e	—	9,80	Note 5
f	1,60	1,68	
g	—	7,60	
h	2,72	4,00	
j	0,80	1,00	
k	—	—	Note 4
m	—	5,30	
n	5,00	6,28	
p	—	2,40	
r	—	4,70	

NOTE 1 Mechanical and electrical reference plane.

NOTE 2 Design and location of the seal ring is optional, but should meet environmental requirements.

NOTE 3 Radius or angle, plane part is 0,25 mm max.

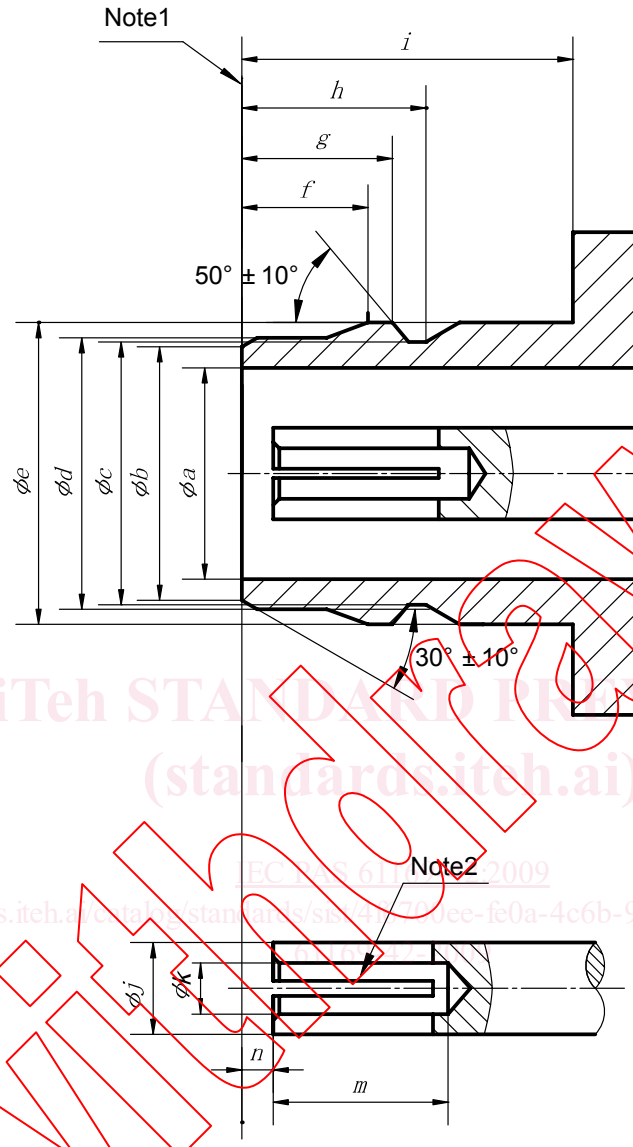
NOTE 4 Diameters are chosen to obtain a normal impedance of 50 Ω and meet electrical and mechanical requirements.

NOTE 5 Prefix locknut (maximal dimension).

NOTE 6 Chamfer.

NOTE 7 Design of spring is optional, but should meet mechanical performance requirements.

3.1.2 Connector with socket-centre contact



NOTE For dimensions and notes, see Table 2.

Figure 2 – Connector with socket-centre contact

Table 2 – Dimensions of connector with socket-centre contact

Ref.	mm		Notes
	Min.	Max.	
a	7,00 nominal		Note 3
b	8,30	8,50	
c	8,70	8,90	
d	8,90	9,00	
e	—	10	
f	4,20	4,25	
g	4,90	5,00	
h	6,15	6,25	
i	11,00	—	
j	—	—	Note 3
k	—	—	
m	5,33	—	
n	1,00	1,20	

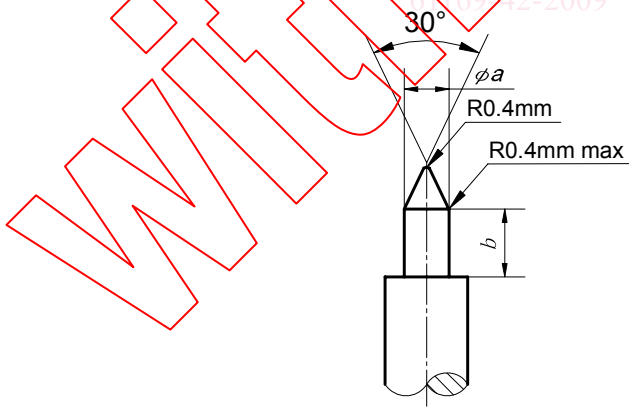
NOTE 1 Mechanical and electrical reference plane.

NOTE 2 Design of centre contact is optional, but should meet electrical and mechanical requirements.

NOTE 3 Diameters are chosen to obtain a normal impedance of 50 Ω and meet electrical and mechanical performance requirements.

3.2 Gauges

3.2.1 Gauge pins for socket-centre contact



NOTE For dimensions and notes, see Table 3.

Figure 3 – Gauge pins for socket-centre contact

Table 3 – Dimensions of gauge pins for socket-centre contact

Gauge A Maximum material for sizing purposes			Gauge B Minimum material for measurement of retention force Mass of gauge: 56 g ± 2 g	
Ref.	mm		mm	
	Min.	Max.	Min.	Max.
a	1,680	1,685	1,595	1,600
b	1,72	2,92	1,72	2,92
material: steel, polished, surface roughness: Ra=0,4 µm maximum				

3.2.2 Test procedure

Gauge A shall be inserted into the socket-centre contact three times with a minimum depth of 1,72 mm. This is a sizing operation and should only be carried out when the socket-centre contact is removed from the connector.

After this, gauge B shall be inserted into the socket-centre contact. The contact shall retain the mass of the gauge in a vertical downward position. The test shall also be carried out on connector when the socket-centre contact is not removed.

Additional test:

At the conclusion of the tests and if prescribed in the DS, the force necessary to insert gauge A shall be measured. When this additional test is required, the force required shall not exceed 9,0 N.