



ANSI/EIA-364-111A-2015(R2020)

Approved: September 3, 2015

Reaffirmed: October 20, 2020

EIA-364-111A

EIA STANDARD

TP-111A

Determining the Total Ionic Contamination Test Procedure for Electrical Connectors, Socket Assemblies, or Components

EIA-364-111A

(Revision of EIA-364-111)

September 2015



Electronic Components Industry Association

NOTICE

EIA Engineering Standards and Publications are designed to serve the public interest through eliminating misunderstandings between manufacturers and purchasers, facilitating interchangeability and improvement of products, and assisting the purchaser in selecting and obtaining with minimum delay the proper product for his particular need. Existence of such Standards and Publications shall not in any respect preclude any member or nonmember of ECIA from manufacturing or selling products not conforming to such Standards and Publications, nor shall the existence of such Standards and Publications preclude their voluntary use by those other than ECIA members, whether the standard is to be used either domestically or internationally.

Standards and Publications are adopted by ECIA in accordance with the American National Standards Institute (ANSI) patent policy. By such action, ECIA does not assume any liability to any patent owner, nor does it assume any obligation whatever to parties adopting the Standard or Publication.

This EIA Standard is considered to have International Standardization implications, but the International Electrotechnical Commission activity has not progressed to the point where a valid comparison between the EIA Standard and the IEC document can be made.

This Standard does not purport to address all safety problems associated with its use or all applicable regulatory requirements. It is the responsibility of the user of this Standard to establish appropriate safety and health practices and to determine the applicability of regulatory limitations before its use.

(From Standards Proposal No. 5347.05 formulated under the cognizance of the CE-2.0 Committee on EIA National Connector and Sockets Standards and reaffirmed by Standards Proposal No. 5462.02.)

Published by

©Electronic Components Industry Association 2020
EIA Standards & Technology Department
13873 Park Center Road, Suite 315
Herndon, VA 20171

**PLEASE !
DON'T VIOLATE
THE
LAW!**

This document is copyrighted by the ECIA and may not be reproduced without permission.

Organizations may obtain permission to reproduce a limited number of copies through entering into a license agreement. For information, contact:

IHS Markit
15 Inverness Way East
Englewood, CO 80112-5704 or call
USA and Canada (1-877-413-5186), International (303-397-7956)

CONTENTS

Clause	Page
1 Introduction	1
1.1 Scope	1
1.1.1 Method A, Ionography	1
1.1.2 Method B, Ion chromatography	1
1.2 Object	1
1.3 Definitions	1
2 Test resources	2
2.1 Equipment	2
2.1.1 Method A, Ionography	2
2.1.2 Method B, Ion chromatography	3
2.2 Material	3
2.2.1 Method A, Ionography	3
2.2.2 Method B, Ion chromatography	3
3 Test specimen	4
3.1 Description	4
3.2 Preparation	4
4. Test procedure	4
4.1 Method A, Ionography	4
4.2 Method B, Ion chromatography	6
5 Details to be specified	9
6 Test documentation	9
Table	
1 Common ions of interest	8

(This page left blank)

TEST PROCEDURE No. 111A

DETERMINING IONIC CONTAMINATION
TEST PROCEDURE FOR
ELECTRICAL CONNECTORS, SOCKET ASSEMBLIES, OR COMPONENTS

(From EIA Standards Proposal No. 5347.05, formulated under the cognizance of the EIA CE-2.0 Committee on National Connector and Socket Standards, and previously published in EIA-364-111.)

1 Introduction

1.1 Scope

This standard establishes 2 methods for determining the total amount of extractable ionic contamination on the surface of an electrical connector or socket assembly or component.

1.1.1 Method A, Ionography

A test method for quantifying the extractable ionic contamination on the surface of an electrical connector or socket assembly or component using an ionograph contamination measurement system as determined in sodium chloride (NaCl) equivalents.

1.1.2 Method B, Ion chromatography

A test method for quantifying and identifying the extractable ionic species on the surface of an electrical connector or socket assembly or component using an ion chromatograph system. Ion chromatography results are reported in parts per million of ionic species.

1.2 Object

The object of this test procedure is to determine the amount of ionic contamination that may be present on the surface of a connector or socket assembly or component (either plastic or metallic). The source of the contamination may be in the materials of construction or in residues from manufacturing processes. If excessive, the reliability of electronic equipment utilizing the connector or socket assembly or component may be compromised.

1.3 Definitions

1.3.1 Total ionic contamination

Soluble ionic species such as inorganic salts or weak organic acids