



2021 IECQ AP – ESD TRAINING WORKSHOP – Remote (IEC 61340-5-1:2016 including aspects of ANSI/ESD S20.20:2014 Ed.1)

ESD (Electrostatic Discharge Management)

- 17th to 21st January 2022 – Saint Petersburg time-zone,

Workshop ID: TWSER9

Workshop Participants Limited to 20

IEC Quality Assessment System For Electronic Components (IECQ)





IECQ Electrostatic Discharge Management Training Workshop – Remote Deployment

2021 IECQ Remote Deployment Training Workshops IECQ 5-Day AP – ESD Training Workshop date:

Region Time zone: Saint Petersburg, Russia

Date and Time:

This training meets 5 times. Attendees are expected to attend all 5 sessions and complete the pre-workshop e-learning modules.

- Mon, Jan 17, 2022 9:00 AM - 6:00 PM MSK *(with 1hr Lunch Break, Tutor EET 8:00am – 5:00pm)*
- Tue, Jan 18, 2022 9:00 AM - 6:00 PM MSK *(with 1hr Lunch Break, Tutor EET 8:00am – 5:00pm)*
- Wed, Jan 19, 2022 9:00 AM - 6:00 PM MSK *(with 1hr Lunch Break, Tutor EET 8:00am – 5:00pm)*
- Thu, Jan 20, 2022 9:00 AM - 6:00 PM MSK *(with 1hr Lunch Break, Tutor EET 8:00am – 5:00pm)*
- Fri, Jan 21, 2022 9:00 AM - 6:00 PM MSK *(with 1hr Lunch Break, Tutor EET 8:00am – 5:00pm)*

IECQ Contacts: Donna CROFT | info@iecq.org & donna.croft@iecq.org
Steve ALLAN | steve.allan@iec-conformity.org | +61 405502386

IECQ Master Tutors: Gediminas Mikšys

Workshop Language: English (local live Russian Translation to be provided by CB)
[Bilingual **English** / Russian Exams]

!! Important Please Take Note !!

**Registrations must be sent to Donna Croft (info@iecq.org or donna.croft@iecq.org)
using the attached form to secure a place before **10th January 2022**.**

PLEASE NOTE!! All registered participants will also be sent an on-line e-learning catalog from which they will be required complete each module. Please ensure you have completed the “Prerequisite Essential e-learning modules” before the workshop commences, no later than **14th January 2022**.



IECQ Electrostatic Discharge Management Training Workshop – Remote Deployment

Who is this workshop aimed at?

This IECQ AP-ESD Resource Training Module series is primarily aimed to impart the required knowledge and understanding for the implementation and auditing of an Electrostatic Discharge (ESD) Control Program within an organization according to International Standard IEC 61304-5-1 Electrostatics – Part 5-1: Protection of electronic devices from electrostatic phenomena – General requirements under IECQ AP ESD Certification.

The IECQ AP-ESD Resource Training Module series also provides the knowledge and understanding of the differences between IEC 61304-5-1:2016 and ANSI/ESD S20.20:2014.

The IECQ AP - ESD workshop is aimed at **IECQ CB Resources** such as but not limited to, Sales, Contract Administration, Internal Auditors (*currently holding ISO 9001:2015 internal auditor competence*), External Auditors (*currently holding ISO 9001:2015 auditor or lead auditor competence*), Industry Experts and IECQ CB Technical reviewers / decision makers.

IECQ 5-Day AP – ESD Training Workshop Fee:

This fee covers participant's attendance at the 5-day workshop, an IECQ Certificate of attendance.

Those participant's that successfully undertake and pass the Exams will be awarded an IECQ Training Certificate registered on the IECQ Online Training Certificate System, relevant to their competence.

What do I need to prepare and provide?

Prepare (Pre-class assignment):

Prerequisite essential e-learning modules to be completed before the **14th January 2022**:

- Prerequisite - IECQ CA System - An Introduction (Q-M30-U01, informative)
- Prerequisite - IECQ General Rules & Procedures - What to know (Q-M31-U01, includes short exam)

The Master Tutors of this workshop, have asked that all participants:

- Solid understanding of electrotechnical component product, industry terms used and their use within the General industries and their supply chain,
- Solid understanding and experience with ISO 9001:2015 Risk-based thinking and Process-based auditing approach,
- Have read and attained basic knowledge of IEC 61340-5-1:2016 Ed2.0
- Have read and attained basic knowledge of IEC TS 61340-5-4:2021 Ed1.0
- Have read and attained basic knowledge of IECQ 03-2 IECQ AP Scheme Rules of Procedure.
- Have read and attained basic knowledge of IECQ OD 61340-5-1



IECQ Electrostatic Discharge Management Training Workshop – Remote Deployment

Participants are further asked to prepare some thoughts about the publication for sharing in class as the workshop proceeds. You may be randomly asked to share your thoughts on a requirement(s).

Provide (Either before or on Day 1, if before you may send to info@iecq.org):

Bring with you a laptop / tablet capable of connecting to the internet – exams will be taken electronically on-line. You must be able to access <https://iecq.onlinetests.app/>

To be awarded an IECQ ESD LA Certificate (upon successfully completing the workshop) every participant needs to have provided to the Master Tutor / IECQ Secretariat the follow:

- 1) Evidence of being a qualified ISO 9001:2015 auditor.

Be prepared to actively participate:

- A. During the workshop days – be alert and participate;
- B. Phone calls and Emails should only be undertaken during the breaks;
- C. Be involved and contribute to discussions and exercises;
- D. While we encourage feedback on the training material, we request this feedback is provided on the provided forms and if necessary, discussed politely as a group with the class and with the Master Trainer after the final exams.

Important take note!!

Copyright © IECQ Endorsed / Standard Training Materials

IECQ endorsed training materials are an IEC publication protected by copyright. The material shall not be reproduced in part or full or used to conduct unqualified IECQ Training.



We do kindly ask all participants to be prepared to switch off your phones during class sessions over the four days – breaks excluded.





IECQ Electrostatic Discharge Management Training Workshop – Remote Deployment

IECQ ESD Training Workshop will be run over 5-days:

IECQ ESD Pre-workshop Module - Knowledge and Understanding.

Time	On-Line e-Learning Topics
50 Minute Tutorial	IECQ Conformity Assessment System – An Introduction (Q-M30-U01, informative)
100 Minute Tutorial 60 Minute Exam	IECQ General Rules & Procedures – What to know (Q-M31-U01, includes Exam)
Estimated Required Time	You will need approximately 3.5 hours to complete this module.



IECQ Electrostatic Discharge Management Training Workshop – Remote Deployment

IECQ ESD Training Workshop will be run over 5-days:

Time (Day 1) Time Zone	IECQ Electrostatic Discharge Management Topics Face to Face (Remotely Deployed)
9:00 to 9:30 MSK 8:00 to 8:30 EET 17:00 to 17:30 AEST	IECQ AP-ESD Workshop, Introduction and Objectives + Recap on prerequisite e-Training modules
9:30 to 9:45 MSK 8:30 to 8:45 EET 17:30 to 17:45 AEST	An Introduction to ESD
9:45 to 10:50 MSK 8:45 to 9:50 EET 17:45 to 18:50 AEST	ESD Theory
10:50 to 11:00 MSK 9:50 to 10:00 EET 18:50 to 19:00 AEST	Session Break [10 minutes]
11:00 to 11:10 MSK 10:00 to 10:10 EET 19:00 to 19:10 AEST	The need for an ESD System
11:10 to 11:25 MSK 10:10 to 10:25 EET 19:10 to 19:25 AEST	ESD Standards
11:25 to 11:35 MSK 10:25 to 10:35 EET 19:25 to 19:35 AEST	IECQ AP-ESD Resources - Training Outcomes
11:35 to 12:30 MSK 10:35 to 11:30 EET 19:35 to 20:30 AEST	IEC 61340-5-1 Electrostatics – Part 5-1: Protection of electronic devices from electrostatic phenomena – General requirements Introduction <ul style="list-style-type: none"> – Human Body Model (HBM) – Charged Device Model (CDM) – Machine Model (MM) – ESD vs Humidity
12:30 to 13:30 MSK 11:30 to 12:30 EET 20:30 to 21:30 AEST	Session Break [60 minutes]
13:30 to 13:50 MSK 12:30 to 12:50 EET 21:30 to 21:50 AEST	IEC 61340-5-1 1. Scope
13:50 to 14:35 MSK 12:50 to 13:35 EET 21:50 to 22:35 AEST	IEC 61340-5-1 2. Normative references



IECQ Electrostatic Discharge Management Training Workshop – Remote Deployment

14:35 to 15:05 MSK 13:35 to 14:05 EET 22:35 to 23:05 AEST	IEC 61340-5-1	3. Terms and definitions
15:05 to 15:15 MSK 14:05 to 14:15 EET 23:05 to 23:15 AEST	IEC 61340-5-1	4. Personnel safety
15:15 to 15:45 MSK 14:15 to 14:45 EET 23:15 to 23:45 AEST	Session Quiz / Exercises	IEC 61340-5-1 ESD Control Program Class Exercise 1, Class Exercise 2,
15:45 to 15:55 MSK 14:45 to 14:55 EET 23:45 to 23:55 AEST	Session Break	[10 minutes]
15:55 to 16:05 MSK 14:55 to 15:05 EET 23:55 to 00:05 AEST	IEC 61340-5-1	5. ESD Control Program 5.1 General 5.1.1 ESD control program requirements 5.1.2 ESD coordinator 5.1.3 Tailoring
16:05 to 16:55 MSK 15:05 to 15:55 EET 00:05 to 00:55 AEST	Session Quiz / Exercises	IEC 61340-5-1 ESD Control Program Class Exercise 3, Class Exercise 4, Class Exercise 5,
16:55 to 17:15 MSK 15:55 to 16:15 EET 00:55 to 01:15 AEST	IEC 61340-5-1	5. ESD Control Program 5.2 ESD Control Program Administrative Requirements 5.2.1 ESD Control Program Plan
17:15 to 17:35 MSK 16:15 to 16:35 EET 01:15 to 01:35 AEST	Session Quiz / Exercises	IEC 61340-5-1 ESD Control Program Class Exercise 6,
17:35 to 17:45 MSK 16:35 to 16:45 EET 01:35 to 01:45 AEST	IEC 61340-5-1	5. ESD Control Program 5.2 ESD Control Program Administrative Requirements 5.2.2 Training Plan
17:45 to 18:05 MSK 16:45 to 17:05 EET 01:45 to 02:05 AEST	Session Quiz / Exercises	IEC 61340-5-1 ESD Control Program Class Exercise 7,
Time (Day 2) Time Zone	IECQ Electrostatic Discharge Management Topics Face to Face (Remotely Deployed)	
9:00 to 9:20 MSK 8:00 to 8:20 EET 17:00 to 17:20 AEST	IEC 61340-5-1	5. ESD Control Program 5.2 ESD Control Program Administrative Requirements 5.2.3 Product Qualification



IECQ Electrostatic Discharge Management Training Workshop – Remote Deployment

9:20 to 10:40 MSK 8:20 to 9:40 EET 17:20 to 18:40 AEST	Session Quiz / Exercises	IEC 61340-5-1 ESD Control Program Class Exercise 8, Class Exercise 9, Class Exercise 10, Class Exercise 11,
10:40 to 10:50 MSK 9:40 to 9:50 EET 18:40 to 18:50 AEST	Session Break	[10 minutes]
10:50 to 11:00 MSK 9:50 to 10:00 EET 18:50 to 19:00 AEST	IEC 61340-5-1	5. ESD Control Program 5.2 ESD Control Program Administrative Requirements 5.2.4 Compliance Verification Plan
11:00 to 11:20 MSK 10:00 to 10:20 EET 19:00 to 19:20 AEST	Session Quiz / Exercises	IEC 61340-5-1 ESD Control Program Class Exercise 12, Class Exercise 13,
11:20 to 12:10 MSK 10:20 to 11:10 EET 19:20 to 20:10 AEST	IEC 61340-5-1	5. ESD Control Program 5.3 ESD Control Program Plan Technical Requirements 5.3.1 General 5.3.2 Grounding/equipotential bonding systems
12:10 to 13:10 MSK 11:10 to 12:10 EET 20:10 to 21:10 AEST	Session Break	[60 minutes]
13:10 to 13:20 MSK 12:10 to 12:20 EET 21:10 to 21:20 AEST	Session Quiz / Exercises	IEC 61340-5-1 ESD Control Program Class Exercise 14,
13:20 to 13:55 MSK 12:20 to 12:55 EET 21:20 to 21:55 AEST	IEC 61340-5-1	5. ESD Control Program 5.3 ESD Control Program Plan Technical Requirements 5.3.3 Personnel Grounding
13:55 to 15:05 MSK 12:55 to 14:05 EET 21:55 to 23:05 AEST	Session Quiz / Exercises	IEC 61340-5-1 ESD Control Program Class Exercise 15, Class Exercise 16, Class Exercise 17,
15:05 to 15:15 MSK 14:05 to 14:15 EET 23:05 to 23:15 AEST	Session Break	[10 minutes]
15:15 to 16:25 MSK 14:15 to 15:25 EET 23:15 to 00:25 AEST	IEC 61340-5-1	5. ESD Control Program 5.3 ESD Control Program Plan Technical Requirements 5.3.4 ESD Protected Areas (EPA)
16:25 to 17:15 MSK 15:25 to 16:15 EET 00:25 to 01:15 AEST	Session Quiz / Exercises	IEC 61340-5-1 ESD Control Program Class Exercise 18, Class Exercise 19, Class Exercise 20,



IECQ Electrostatic Discharge Management Training Workshop – Remote Deployment

17:15 to 17:20 MSK 16:15 to 16:20 EET 01:15 to 01:20 AEST	IEC 61340-5-1	5. ESD Control Program 5.3 ESD Control Program Plan Technical Requirements 5.3.5 Packaging
17:20 to 17:40 MSK 16:20 to 16:40 EET 01:20 to 01:40 AEST	Session Quiz / Exercises	IEC 61340-5-1 ESD Control Program Class Exercise 21,
17:40 to 17:50 MSK 16:40 to 16:50 EET 01:40 to 01:50 AEST	IEC 61340-5-1	5. ESD Control Program 5.3 ESD Control Program Plan Technical Requirements 5.3.6 Marking
Time (Day 3) Time Zone	IECQ Electrostatic Discharge Management Topics Face to Face (Remotely Deployed)	
9:00 to 9:30 MSK 8:00 to 8:30 EET 17:00 to 17:30 AEST	IEC 61340-5-1	Annex A (normative Test methods)
9:30 to 10:30 MSK 8:30 to 9:30 EET 17:30 to 18:30 AEST	Session Case Study	IEC 61340-5-1 ESD Control Program Case Study #1
10:30 to 10:40 MSK 9:30 to 9:40 EET 18:30 to 18:40 AEST	Session Break	[10 minutes]
10:40 to 12:10 MSK 9:40 to 11:10 EET 18:40 to 20:10 AEST	Session Case Study	IEC 61340-5-1 ESD Control Program Case Study #2 Case Study #3
12:10 to 13:10 MSK 11:10 to 12:10 EET 20:10 to 21:10 AEST	Session Break	[60 minutes]
13:10 to 13:40 MSK 12:10 to 12:40 EET 21:10 to 21:40 AEST	IEC TS 61340-5-4 Electrostatics	– Part 5 - 4: Protection of electronic devices from electrostatic phenomena – Compliance verification Introduction
13:40 to 13:50 MSK 12:40 to 12:50 EET 21:40 to 21:50 AEST	IEC TS 61340-5-4	1. Scope
13:50 to 13:55 MSK 12:50 to 12:55 EET 21:50 to 21:55 AEST	IEC TS 61340-5-4	2. Normative references
13:55 to 14:00 MSK 12:55 to 13:00 EET 21:55 to 22:00 AEST	IEC TS 61340-5-4	3. Terms and definitions



IECQ Electrostatic Discharge Management Training Workshop – Remote Deployment

14:00 to 14:05 MSK 13:00 to 13:05 EET 22:00 to 22:05 AEST	IEC TS 61340-5-4	4. Personnel safety
14:05 to 14:20 MSK 13:05 to 13:20 EET 22:05 to 22:20 AEST	IEC TS 61340-5-4	5. Test methods and test frequency
14:20 to 14:50 MSK 13:20 to 13:50 EET 22:20 to 22:50 AEST	IEC TS 61340-5-4	6. Test equipment 6.1 Selection of test equipment
14:50 to 15:00 MSK 13:50 to 14:00 EET 22:50 to 23:00 AEST	Session Break	[10 minutes]
15:00 to 15:40 MSK 14:00 to 14:40 EET 23:00 to 23:40 AEST	IEC TS 61340-5-4	7. Grounding/bonding
15:40 to 16:20 MSK 14:40 to 15:20 EET 23:40 to 00:20 AEST	IEC TS 61340-5-4	<ul style="list-style-type: none"> ▪ Annex I (informative) Grounding/bonding systems
16:20 to 16:30 MSK 15:20 to 15:30 EET 00:20 to 00:30 AEST	Session Quiz / Exercises	IEC TS 61340-5-4 Compliance Verification Class Exercise 22,
16:30 to 17:00 MSK 15:30 to 16:00 CST 00:30 to 01:00 AEST	IEC TS 61340-5-4	8. Work surfaces
17:00 to 18:00 MSK 16:00 to 17:00 CST 01:00 to 02:00 AEST	IEC TS 61340-5-4	9. Wrist strap system
Time (Day 4) Time Zone	IECQ Electrostatic Discharge Management Topics Face to Face (Remotely Deployed)	
9:00 to 9:45 MSK 8:00 to 8:45 EET 17:00 to 17:45 AEST	IEC TS 61340-5-4	10. Person-footwear system
9:45 to 10:05 MSK 8:45 to 9:05 EET 17:45 to 18:05 AEST	Session Quiz / Exercises	IEC TS 61340-5-4 Compliance Verification Class Exercise 23, Class Exercise 24,
10:05 to 10:15 MSK 9:05 to 9:15 EET 18:05 to 18:15 AEST	Session Break	[10 minutes]



IECQ Electrostatic Discharge Management Training Workshop – Remote Deployment

10:15 to 10:55 MSK 9:15 to 9:55 EET 18:15 to 18:55 AEST	IEC TS 61340-5-4	11. Flooring
10:55 to 11:15 MSK 9:55 to 10:15 EET 18:55 to 19:15 AEST	Session Quiz / Exercises	IEC TS 61340-5-4 Compliance Verification Class Exercise 25, Class Exercise 26,
11:15 to 11:45 MSK 10:15 to 10:45 EET 19:15 to 19:45 AEST	IEC TS 61340-5-4	12. Person-footwear-flooring system measurement of resistance to ground
11:45 to 12:30 MSK 10:45 to 11:30 EET 19:45 to 20:30 AEST	IEC TS 61340-5-4	13. Seating
12:30 to 13:30 MSK 11:30 to 12:30 EET 20:30 to 21:30 AEST	Session Break	[60 minutes]
13:30 to 14:10 MSK 12:30 to 13:10 EET 21:30 to 22:10 AEST	IEC TS 61340-5-4	14. Air ionizers
14:10 to 14:50 MSK 13:10 to 13:50 EET 22:10 to 22:50 AEST	IEC TS 61340-5-4	15. Mobile equipment
14:50 to 15:00 MSK 13:50 to 14:00 EET 22:50 to 23:00 AEST	Session Break	[10 minutes]
15:00 to 15:45 MSK 14:00 to 14:45 EET 23:00 to 23:45 AEST	IEC TS 61340-5-4	16. Groundable static control garment system
15:45 to 16:45 MSK 14:45 to 15:45 EET 23:45 to 00:45 AEST	IEC TS 61340-5-4	17. Static control garments and groundable static control garments
16:45 to 16:55 MSK 15:45 to 15:55 EET 00:45 to 00:55 AEST	Session Quiz / Exercises	IEC TS 61340-5-4 Compliance Verification Class Exercise 27,
16:55 to 18:10 MSK 15:55 to 17:10 EET 00:55 to 02:10 AEST	IEC TS 61340-5-4	18. Packaging



IECQ Electrostatic Discharge Management Training Workshop – Remote Deployment

Time (Day 5) Time Zone	IECQ Electrostatic Discharge Management Topics Face to Face (Remotely Deployed)	
9:00 to 9:30 MSK 8:00 to 8:30 EET 17:00 to 17:30 AEST	IEC TS 61340-5-4	19. Process essential insulators
9:30 to 10:00 MSK 8:30 to 9:00 EET 17:30 to 18:00 AEST	IEC TS 61340-5-4	20. Process essential isolated conductors
10:00 to 10:10 MSK 9:00 to 9:10 EET 18:00 to 18:10 AEST	IEC TS 61340-5-4	Annex A (informative) Test Frequency
10:10 to 10:20 MSK 9:10 to 9:20 EET 18:10 to 18:20 AEST	IEC TS 61340-5-4	Annex B (informative) Verification of compliance verification test equipment
10:20 to 10:30 MSK 9:20 to 9:30 EET 18:20 to 18:30 AEST	IEC TS 61340-5-4	Annex C (informative) Other test methods for static control garments
10:30 to 10:40 MSK 9:30 to 9:40 EET 18:30 to 18:40 AEST	Session Break	[10 minutes]
10:40 to 10:50 MSK 9:40 to 9:50 EET 18:40 to 18:50 AEST	IEC TS 61340-5-4	Annex D (informative) Person-footwear-flooring system measurement of body voltage
10:50 to 11:20 MSK 9:50 to 10:20 EET 18:50 to 19:20 AEST	IEC TS 61340-5-4	Annex E (informative) Electrical soldering/desoldering hand tools
11:20 to 12:00 MSK 10:20 to 11:00 EET 19:20 to 20:00 AEST	IEC TS 61340-5-4	Annex F (informative) hand tools
12:00 to 12:20 MSK 11:00 to 11:20 EET 20:00 to 20:20 AEST	IEC TS 61340-5-4	Annex G (informative) Constant (continuous) monitors
12:20 to 13:20 MSK 11:20 to 12:20 EET 20:20 to 21:20 AEST	Session Break	[60 minutes]
13:20 to 14:05 MSK 12:20 to 13:05 EET 21:20 to 22:05 AEST	IEC TS 61340-5-4	Annex H (informative) Gloves and finger cots – In use resistance



IECQ Electrostatic Discharge Management Training Workshop – Remote Deployment

14:05 to 14:35 MSK 13:05 to 13:35 EET 22:05 to 22:35 AEST	Session Case Study	IEC TS 61340-5-4 Compliance Verification Case Study #4
14:35 to 14:45 MSK 13:35 to 13:45 EET 22:35 to 22:45 AEST	Session Break	[10 minutes]
14:45 to 15:45 MSK 13:45 to 14:45 EET 22:45 to 23:45 AEST	Session Case Study	IEC TS 61340-5-4 Compliance Verification Case Study #5
15:45 to 16:00 MSK 14:45 to 15:00 EET 23:45 to 00:00 AEST	IEC AP-ESD	Additional Guidance, Re-Cap & Questions
16:00 to 18:00 MSK 15:00 to 17:00 EET 00:00 to 02:00 AEST	Exam Time	CB Resources / Auditor Knowledge/Skill Exam (2.0 hours)

Note: Each of the chapter of the standard will include several exercises, which will be led by tutor and all the participants shall be involved. The performance of this will be the input of the final score of the auditor.

Course Packet Includes:

Electronic booklet of workshop material.

Notes:

- 1) *Course material and agenda are tentative and subject to change.*
- 2) *Exercises and Case Studies have been based on real world experiences and examples...*