



## American Telecommunications Certification Body

Dear customers,

ATCB is planning to hold the iNARTE Engineer / Technician Certification Examinations at Guangzhou, Shenzhen, Shanghai, Beijing, and Taipei separately in September. Welcome to take the examinations if you're interested in iNARTE international certificates. Related information is as follows:

### Introductions to iNARTE:

1. iNARTE is a non-profit U.S. organization who is the only and most authoritative certification organization for EMC / Safety / ESD / RF / iNCLA engineers and technicians. Since established in 1982, iNARTE has been promoting the global engineering certification services with the support and assistance of IEEE/FCC/AClass. During over 20 years, iNARTE has already developed more than 17,000 member engineers in 26 countries around the world. An engineer recognized by iNARTE is equivalent to have an international license. It can prove to the industry validly for one's professional knowledge, experience and technical capabilities, thereby increase employment opportunities and wages.
2. iNARTE certified value:
  - a. to promote learning and growth: the process of iNARTE exam preparation can help you learn in multi-aspect and improve in the professional field of knowledge.
  - b. to validate yourself: iNARTE certification exams can help you verify what you've learnt and acknowledge your achievements after years of working experience.
  - c. to prove you're excellence: based on basic education (College, Bachelor or Master) and experience, iNARTE certified to prove your knowledge and experience is outstanding than others.
  - d. to increase job opportunities: iNARTE certified is increasing job opportunities from recognition of foreign companies. You will not be laid off an era of economic recession.
  - e. to increase revenue: iNARTE certified help you to increase the salary.
  - f. to value-added of the company: Let customers understand the strength of your company through staffs iNARTE certified.
  - g. to enhance the company's quality: enhance the quality of the company via self-affirmation by the individual.
3. iNARTE certificates:
  - a. iNARTE exams in Asia: Presently has EMC, ESD, Product Safety and Lab Internal Auditor (also known as iNCLA). Based on job content and experience (iNCLA excluded), it can be divided into two kinds of certification which are Engineer (Engineer, focuses on R & D) and Technician (Technician, focuses on equipment operation and test implementation). You can make the choice according to your own situation.
  - b. Conditions of getting iNARTE certificates:
    - (a) For engineer certification, provide specific record of nine years or more of experience in relevant engineering work;  
For technician certification, provide specific record of six years or more of experience in



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relevant technician work;

Provide evidence of education and training which it can be converted into working time upon approval.

- (b) Submit a minimum of 1 supervisor reference and 2 additional references each supporting character and competence as an Engineer/Technician.
  - (c) Compose 10 multiple choice questions with correct answers and supporting reference. (INCLA is 5).
  - (d) The EMC/ESD/Product Safety exam consists of two sections, 4 hours for each section. The average of more than 70% correct answers is considered qualified for EMC/ESD/Product Safety exam. iNCLA is 75%.
- c. There is no time limit to meet the above five conditions. Candidates can complete it one by one. For example, if the working experience is insufficient, you can first take the exam and meet other conditions. You can get the formal certificates until the working experience is enough.
- d. Retake exam: two sections of examinations are counted independently. You can retake the section of fail the examination.

### Examination Arrangements:

1. Theme: American iNARTE Engineer / Technician and iNCLA certification exams.
2. Date: Sept. 11, 2010 (Sat.). Taipei, Guangzhou, Shenzhen, Shanghai and Beijing will hold the exams at the same day. The test center will be informed in the further notice.
3. Registration: From now until August 15 2010.
4. Exam time allocation:
  - Before 08:40: Registration.
  - 08:40 ~ 09:00: Examination instructions
  - 09:00 ~ 13:00: Engineer/Technician exam of foundational knowledge (4 hours)  
iNCLA test
  - 13:00 ~ 14:00: Lunch
  - 14:00 ~ 18:00: Engineer/Technician exam of application knowledge (4 hours)
5. Examination fee: CNY3,000 (self catering and transport). Taiwan area could be pay by USD or TWD using the exchange rate of the remittance date.
6. Examination subjects:
  - a. **EMC Engineer:**  
Bonding, Grounding, Shielding, Interface Control, Filtering, Materials and Special Devices, Conducted, Interference, Radiated Interference, EMC Test Plans, Test Equipment, Test facilities, Safety, Terminology, Mathematic Spectrum Analysis, ESD, EMP, Lightning Protection, Inter-system and Intra-system, Design, Equipment Design, EMI Prediction, EMI Analysis, Field Theory, Antennas, Filter Theory
  - b. **EMC Technician:**  
Bonding, Grounding, Shielding, Interface Control, Filtering, Materials and Special Devices, Conducted Interference, Radiated Interference, EMC Test Plans, Test Equipment, Test Facilities, Safety, Terminology, Mathematic Spectrum, Analysis, ESD, EMP, Lightning Protection



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### **c. ESD Engineer:**

ESD Program Design & Management, ESD Loss Analysis, ESD Theory, Math/Physics, Safety, Standards/Specifications, Terminology, System Test & Measurement, Workstations, Flooring, ESD Shielding Analysis, Equipment Design, Intersystem & Intrasystem Design, Body Charge Eval & Control, Materials Test & Measurement, ESD Prediction (Devices & Systems), ESD Analysis (Devices & Systems), Manufacturing/Repair Facility, Eval, Survey & Auditing, Plant Equipment ESD Control & Evaluation, Clean Room Equipment & Material Control, Garment Control & Evaluation, Mfg Plant Handling Procedures, ESD Control Material In-Field Testing, Production Aids & Tool Eval, Ionization Devices & Systems, In Field ESD Controls, Device Sensitivity Test & Measurement, Grounding Technology, Laboratory Test & Analysis of ESDC Packaging Materials

### **d. SD Technician:**

ESD Program Design & Management, ESD Loss Analysis, ESD Theory, Math/Physics, Safety, Standards/Specifications, Terminology, System Test & Measurement, Workstations, Flooring, ESD Shielding Analysis, Body Charge Eval & Control, Materials Test & Measurement, Manufacturing/Repair Facility, Eval, Survey & Auditing, Plant Equipment ESD Control & Evaluation, Clean Room Equipment & Material Control, Garment Control & Evaluation, Mfg Plant Handling Procedures, ESD Control Material In-Field Testing, Production Aids & Tool Eval, Ionization Devices & Systems, Grounding Technology, Laboratory Test & Analysis of ESDC Packaging, Materials, In Field ESD Controls

### **e. PS Engineer / Technician:**

Connection to supply, Isolation of supply, Mechanical hazards, Earthing, Types of Insulation, Protection against electrical shock, Resistance to fire, Fire hazards, Limits on fuel, Limits on heat, Insulation damage, Creepage and clearance, Inter system and intra system design, Equipment design, Hazard analysis, Risk assessment, Design review, Legislation US,EEC and International, Military and Civil Electrical Safety Standards, Safety tests, Assessment authorities, Competent Bodies, Safety certification, Declarations of Conformity, Operating and maintenance instructions and handbooks

### **f. iNCLA Laboratory Internal Auditor:**

ISO 17025, Background and Requirements – Clause 4  
ISO 17025, Background and Requirements -- Clause 5  
ISO 17025, Accreditation Scope Requirements  
ISO 17025, Calibration and Testing Issues  
ISO 17011, Accreditation Body Requirements  
ISO 19011, Assessment and Auditing Requirements  
Measurement Uncertainty, Calculations and Practices  
Metrological Traceability  
ISO Guide 43, Proficiency Testing  
Auditing Methods and Reporting  
Definitions and Acronyms  
SI Units and NIST 811 Rules



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7. Exam Reference Books: See attachment
  
8. General information:
  - (1) The examination is open book. Candidates may bring any study/reference materials and notebooks to support answer questions but not assistance by a third party. The candidates must answer the questions independently.
  - (2) The EMC/ESD/Product Safety exam consists of two sections of 48 questions; you must answer 40 of the 48 questions on each part of the exam. iNCLA consists of two sections, one having 50 questions, the second having 4 scenarios. You must answer no more than 40 of the questions and then attempt all of the scenarios analysis. You will be graded on the first 40 questions your answers.
  - (3) In case of any inconsistency between the English and Chinese version of exam questions, the English version shall prevail.
  - (4) Test center does not guarantee the provision of internet connection and power. Candidates must not communicate with third party via Instant Messages software such as MSN, QQ and Skype when connected with Internet. Nor use any means and equipments to record the questions.
  - (5) iNARTE test has a very extensive range of knowledge. There is no question bank that can be investigated. The candidate must rely on the daily preparation and working experience to answer.
  - (6) The candidates, who need the training before the exams, please contact ATCB. The training cannot guarantee that you can pass the exams but only to enhance your knowledge to facilitate the examinations. Normally the training time will be for two days. Cost about CNY3,000.



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Due to the worldwide electronics supply chain has changed during the past decade, iNARTE has begun to promote engineers certification services vigorously in Asia since early 2008. In particular, Asia is the focus of its accreditation. In the past in Asia if the engineers would like to get iNARTE certified they had to go to Europe and America or Japan to take the exams and the exams were in English version. In recent years, in order to assist the Asia engineers to have more opportunities to verify their technical strength, iNARTE specifically excludes the language barrier, and uses the Chinese exams to facilitate candidates in China and Taiwan area.

With the purpose of assisting and improving the EMC / ESD / PS and technical capabilities of the laboratories as well as the value of engineers, from 2010 ATCB is authorized as the iNARTE exclusive agent in China, Hong Kong and Taiwan for all iNARTE certification exams and activities. In this fraud, boasting and self-expansion chaotic market, to those engineers and employers with real strength, through examination and certification to verify the value of engineers is indeed necessary. Otherwise, the fake reports and engineers overrun, thus the value of technology would not exist.

Welcome those who would like to acknowledge their strength to challenge iNARTE certified engineers. Those interested companies are also welcome to require your employees to obtain iNARTE certificates to upgrade the company level.

Who're interested in iNARTE exams please register before August 15 and pay the test fee in advance. If there are any questions or you would like to learn more about exams, welcome to call or e-mail us. All ATCB engineers have passed iNARTE EMC certification exams in 2009 and 2010. They can offer you some practical experience for your reference.