ICR

**International
Certification
Registrar**

CONTENTS

We promise a rich tomorrow with our clients through the changes and innovations.

These days, many organizations are under an era of global economic institutional changes and are confronted with a variety of challenges.
In order to respond to the demands of changes and to do further, we need the efforts. ICR is a conformity assessment body that is constantly studying and trusting mutual as its best aim to meet the demands of development and sustainable management.

ICR is a conformity assessment body that provides management system certification, product testing and certification services and is an accredited testing and certification body registered on accreditation bodies such as ANAB, KAB, KOLAS and PCA.
In addition, ICR has been designated as CB Testing Laboratories(CBTL) according to CB Scheme of the International Electro-technical Commission, providing more diverse testing and certification services.

ICR is the first ONE STOP SERVICE certification body of Republic of Korea. It is a specialized partner in domestic / overseas certification that supports inspections, verification, testing and management system certification through test evaluation and certification support.
As we have been for the last 20 years, we promise a rich tomorrow with our clients through the changes and innovations.

Thank you.

ICR **HISTORY**

In order to create a better tomorrow than today, we will be always with you by bringing back our first intention.

2001   **ICR** International Certification Registrar Ltd. Established.

2003   Accredited for ISO 9001/ ISO 14001 by ANAB, USA Accreditation Body.

2009   Registered as auditor training provider to RAB−QSA (Exemplar Global at present).

2014   Established **ICR** Polska in Warsaw, Poland.

2015   Accredited for ISO 9001/ ISO 14001, OHSAS 18001 by KAB, Korea Accreditation Board.
Accredited as an internationally recognized testing laboratory by KOLAS.

2016   Completion of **ICR** new building at Kimpo.
Registered **ICR** Polska as a NB (NB 2703)

2017   Appointed as Testing Laboratory by KR.
Accepted as CBTL by IECEE.
Appointed as Certified Testing Laboratory by Intertek.
Appointed as Certified Testing Laboratory by RRA.
Appointed as ISO 13485 Certification Body by PCA, Poland Accreditation Body.
Appointed as a standby power and efficiency Testing Laboratory.

2018   Appointed as a EMC Testing Laboratory by Hyundai Motor Group
Registered as a Testing Laboratory by S1
Extended scope of Testing Laboratory by RRA
Registered as a KC Testing Laboratory by KATS

ICR ORGANIZATION CHART

ICR

President

- Board of director

- ICR Polska Sp. Z O.O.(Poland)
  - Board Advisor
    - Managing Director
    - Impartiality Committee
    - Customer Service Department
    - Legal Service
    - Financial Service
    - IT Specialist

- Deputy Director for Certification/ Quality Manager
  - Department for Certification of Electrical and Electrotechnical Product
  - Department for Certification of Explosive Product
  - Department for Certification of Machinery and Pressure Product

Certification Council Impartiality Committee	Complaint/Appeal Committee
Certification Award Pannel	Preventive Action Committee Disciplinary Committee

- Administration Planning Department
- Management System Certification Department
- Product Certification Department
- Test & Inspection Department
- EMC & RF Test Department
- Next Generation Convergence Technology Center

ABOUT ICR

We will do our best to create a **better tomorrow**

◉ Management Policy

ICR always endeavors to create new certification service culture of the twenty–first century with the following management policy

"ICR contributes to improvement of client's management system by providing reliable audit services."

◉ Service Strategy

ICR will achieve the management policy with independence, impartiality and efficiency of certification audits.

Efficiency

Independency

Impartiality

◉ Declaration of Impartiality

ICR is committed to the fulfillment of its responsibility for assuring impartiality in relation to the provision of its certification services and hereby declares the following policy of impartiality:

ICR shall not place itself in any situation where conflicting interests may exist and adversely affect or damage impartiality of interested parties while providing our certification services.

ICR shall not place itself in a situation where audit resources pursue pecuniary interest by sufficient management of resources.

All management and employees of ICR shall maintain good communication and understand the importance of impartiality to assure openness with all audit results.

ICR auditors shall maintain business characteristics of objectiveness and impartiality in performing their auditing services, and shall clearly recognize the provision of certification services through the continual improvement of professionalism and enhanced business skills.

ICR Polska Sp. z o.o. (NB 2703)

www.icrpolska.com

ICR Polska Sp. z o. o is notified body which is established in Poland by ICR Co., Ltd. ICR Co., Ltd. established European certification body, ICR Polska Sp. z o. o for the first time as Korean Certification Body; and ICR Co., Ltd. leads the product certification market with differentiated management system.

Knowledge

ICR Polska Sp. z o. o is actively participating in the Poland Accreditation Body, PCA, various certification, testing and standard development committee.

Assurance

ICR Polska Sp. z o. o provides independent certification for Quality Management System through third-party certification audit, verification and audit; in addition, conducts second-party certification audit on the client's demand.
ICR Polska Sp. z o. o conducts independent audit for products as Notified Body with EU regulation and also conducts comprehensive review about Conformity Assessment and product testing such as CE mark certification audit.

Compliance, Training and Professional Services

Products Certification: Machinery Directive, EMC Directive, Low-Voltage Directive, Radio Equipment Directive
Quality management system: ISO 9001, ISO 13485
Product testing, Business trainings

Partner organization

ICR Polska Sp. z o. o cooperates with Poland Certification Bodies, which have long history and experiences. Also, ICR Polska Sp. z o. o provides prompt and accurate Conformity Assessment for EU regulation through cooperation with leading certification and testing Bodies in Poland.

PIMOT   Automotive Industry Institute
PIMOT is testing and inspection body about parts of an automobile appointed by traffic laws and also provide E-mark and E-mark certification service.

OBAC   NB 1461, ExCB
OBAC is testing and certification body registered as Explosion proof product in IECEs.

PREDOM   NB 1451, NCB
PREDOM is an experienced testing laboratory more than 40 years and is registered in IECEE as Poland NCBs.

BBJ   Association of Polish Electricians, NCB
BBJ is government investment professional electric/electronic testing laboratory and is registered in IECEE as Poland NCBs.

IZTW   NB 1455
IZTW is researching body, which is established in 1949 and specialized in cutting pliers, abrasive blasting and factory automation.

Contact and Site

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Main page of ICR Co. Ltd. : www.icrqa.com

Product certification

Machinery Certification

TEL : 02-6351-9005

Machinery Certification is a certificate for safety in use, national regulation as KCs and S-Mark for Korea, CE(Machinery directive) for Europe, and NRTL for United States are required. Purpose of Machinery Certification is to ensure health and safety for manufacturer and user, as well as animals and goods, against hazards generated from machinery. Machinery is important part of engineering industry, and it is one of the industries of the community economy. The social cost of a large number of accidents caused directly by the use of machinery can be reduced by the safe design and manufacture of machinery and proper installation and maintenance. The manufacturer or its recognized representative shall carry out a risk assessment to essential the health and safety requirements applicable to the machinery. The machine must be designed and manufactured considering the consequences of risk assessment.

◉ Items

It includes a part of a machine or machine that includes a driving part or interlocking with driving part, safety parts, and dangerous machinery.

- Machine tool: Lathe, Milling machine, Roller machine, Press, Injection molder, etc.
- Transport Machine: Electric lift, Crane, Conveyor, Lift etc.
- Semiconductor · LCD Manufacturing Equipmen t: CVD, Etch, Inspection, PVD, etc.
- Automation equipment : Robot, Printing machine, Welding machine, Marking, Inspection, Packing, etc.
- Other industrial Machinery · Apparatus : Aerial work platforms, Crusher, Food processing machinery, etc.

◉ Field of business

Certification service and testing service of ICR is generally concise and accurate. It is possible to proceed without space or devices limitations through visiting service, and to reduce the cost of the time and money

| Certification service |

ICR provides the service of the national certification and the following services including the inspection evaluation report and the test report.

1. Technical document review
   - Design drawing (mechanical, electrical, P&ID etc.), Manual, Design Calculation Data etc.

2. Inspection   • Risk Assessment, SISTEMA etc.

3. Test   • Noise measurement test
                             • Safety of electricity test
                             • On-site test
                             • Semiconductor equipment test
                             • Etc.

4. Issue the certificate • CE CoC, EC-type examination
                             • NRTL Listing, Field labeling
                             • SEMI evaluation report

| Test service |

ICR provides a separate service that test for machines, and provides you with test reports on the tests in progress.

1. Noise measurement test

2. Safety of electricity test
   - Insulation resistance test
   - Withstand voltage test
   - Residual voltage test
   - Functional test

3. Electromagnetic Compatibility test (on-site test)
   - Electromagnetic interference test (EMI)
   - Electromagnetic susceptibility test (EMS)

4. Semiconductor equipment test
   - Electricity and safety test – SEMI S2
   - Chemistry test – SEMI S6
   - Dynamic voltage dips (sag) – SEMI F47
   - Electrostatic (ESD/ESA) – SEMI E78
   - Etc.

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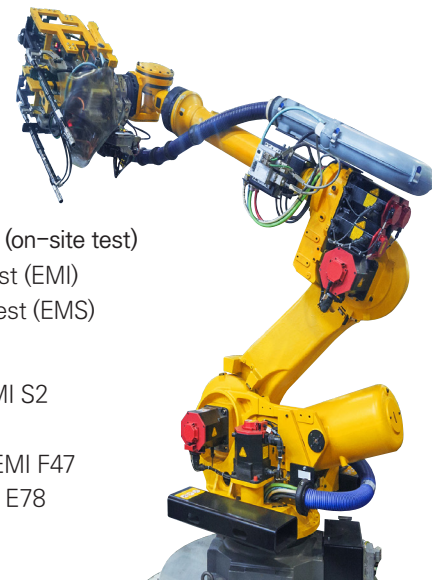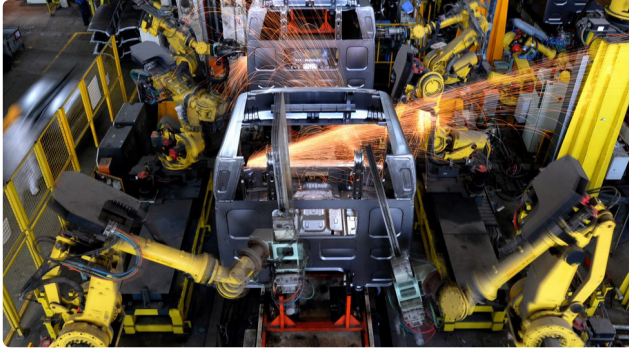
Main certificate introduction

KCs Safety Certificate

- The Ministry of Employment and Labor comprehensively examines whether the safety performance of machinery and equipment subject to safety certification, the technical ability of the manufacturer, and the production system meet safety certification standards.
- ICR ICR provides inspection/test service about KCs Safety Certificate.

KCs safety inspection

- Employers who use harmful or dangerous machinery, equipment or equipment in accordance with Article 36 of the Industrial Safety and Health Act should be inspected by the safety inspection agency to check whether the performance of the safety of hazardous and dangerous machines conforms to the safety inspection standards. It is a system to prevent disasters among.
- ICR provides inspection/test service about KCs Safety Inspection.

KCs Report of Declaration of Conformity

- It is a system that a person who manufactures or imports machinery, equipment, etc. checks whether the safety performance meets the safety standards or not, and to notify the Minister of Employment and Labor.
- ICR provides inspection/test service for KCs certificate.

S-mark Safety Certification

- It is a system to approve the use of the safety certificate marks (S marks) if the safety design of the product, and the quality control system of the manufacturer for manufacturing are examined and the safety certification standard is met.
- ICR provides inspection/test service about S-mark safety certification.

CE

- It is an integrated standard certification mark which means that it meets all the requirements of the EU Council Directive in relation to safety, health, environment and consumer protection. In order to sell products in the European Union market, it is obligatory to mark CE marking on products.
- Institution registered with NANDO(New Approach Notified and Designated Organisations), especially ANNEX IV devices, must be certified by the appropriate certification body, including ICR Polska.
- Machinery Directive: CoC or EC-type examination certificate is issued after performing conformity inspection and testing in accordance with Machinery Directive 2006/42/EC by ICR / ICR Polska.

SEMI

- SEMI (Semiconductor Equipment and Materials International) is the global industry association that supports the manufacturing and supply chain of the micro and nano electronics industries and establishes the policy and regulatory in the global microelectronics industry.
- ICR provides inspection / testing services in accordance with the SEMI standards established by SEMI, and evaluation reports are provided accordingly.

NRTL

- NRTL means a Nationally Recognized Testing Laboratory by OSHA (Occupational Safety and Health Administration), under the influence of the US Department of Labor.
- Certifications for US are largely divided into Listing and Labeling. Listing is to recognize a large quantity of products through product registration, factory audit and renewal, and Labeling is a small quantity product inspection procedure that attaches a NRTL label that certifies a specific product.
- ICR is providing certification services through NRTL partners.

Product certification

Explosion Atmospheres Certification

TEL : 02-6351-9005

Explosive atmospheres mean to prevent explosion of dangerous substances or damage due to explosion. Explosive atmospheres certification is for the safe use of products used in potential explosive atmospheres. The certification schemes exist and are required by region or country such as international standard IECEx, European standard ATEX, KCs in Korea and NEPSI in China. IECEx is an international mutual certification system for the equipments used in explosive atmospheres and demonstrates that the equipments are met the requirements of international standards. The primary purpose of explosive atmospheres certification is to prevent, inhibit and limit the generation and spread of fire or explosive hazardous substances by mixing with oxygen. The secondary purpose is to prevent the degree of risk, especially due to electrical equipment, from being the source of ignition. The third purpose is to take action so that the magnitude of the explosion does not cause a significant risk to industrial facilities after the explosion. The explosion hazardous areas by gases, vapors, and dusts that can cause an explosion or fire are classified according to the likelihood of a hazardous environment. The criteria for this classification are not based on explosive concentrations, but rather on the probability of explosion limits of concentration, and they are not precise numerical representations, they are conceptual, so they should be well understood and selected.

◉ Items

It is applicable to electrical or non-electrical equipments used in the areas such as mines which sensitive for explosive gases, places existed explosive gases or dusts. (Ex. motor, transmitter, sensor, terminal box, cable gland etc.)

◉ ICR Service

| Evaluation service |

ICR provides evaluation services for general and type of protection requirements.

- **Mechanical drawing** : Evaluate materials, dimensions, and tolerances of the equipments by lay-out, assembly drawing and detail drawing, etc.
- **Circuit diagram** : Evaluate the possibility of ignition due to circuits in explosion hazardous areas and the addition of safety parts.
- **Parts datasheet** : Evaluate availability in explosion hazardous areas by checking the rating and temperature of the parts.
- **Property data** : Evaluate the requirements of metallic / non-metallic materials
- **User manual** : Evaluate precautions and warning, etc. for use in explosion hazardous areas

| Testing service |

It provides testing services required by general and type of protection.


- **Temperature test** : Test to determine the maximum surface temperature and service temperature.
- **Thermal endurance to heat** : Test to check the durability of non-metallic enclosures or non-metallic parts of enclosures in high temperature and high humidity environments.
- **Thermal endurance to cold** : Test to check the durability of non-metallic enclosures or non-metallic parts of enclosures in low temperature environment.
- **Impact test** : Test to check for damage that be enable to impair the type of protection when an external impact is applied to the enclosure.
- Tests in accordance with type of protection.

| Quality system audit service |

ICR provides quality system audit service to be appropriate of manufacturer's quality system and documents to produce explosion proof equipments.

- **Quality manual** : Guidance for preparation of quality manual in accordance with ISO / IEC 80079-34.
- **Quality procedure** : Confirmation that quality procedures are prepared according to quality manual and quality system is practically managed based on quality procedure.
- **Documentation** : Confirmation that quality documents are correctly prepared, managed and maintained.
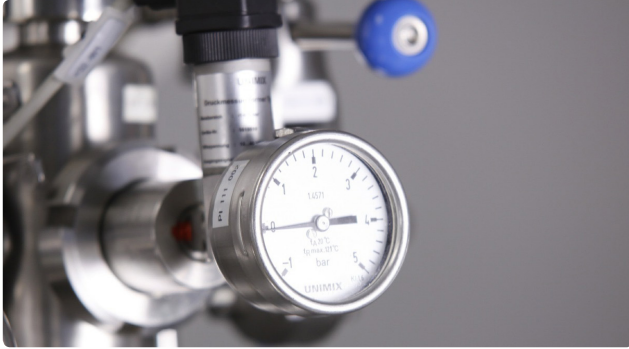
Certification Procedure

| **Product evaluation process** |

1) Determination of hazardous area and type of protection considering the usage environment of product to be certified
2) Submission of the technical documents for the product to be certified
   - Circuit diagram and mechanical drawing
   - BOM
   - Parts datasheet
   - Property data
   - User manual
3) Evaluation of technical documents and reflection of the requirements
4) Performing required test according to type of protection
5) Issue Certificate

| **Quality system audit process** |

1) Confirmation of ISO 9001 quality management system certification
2) Improve quality documents and quality system to reflect the requirements of ISO / IEC 80079-34(Explosive atmospheres - Part 34: Application of quality systems for equipment manufacture)
3) Performing quality system audit
4) Issue QAR

Introduction of certifications

ICR provides one-stop service from product design stage to quality system audit and certification acquisition with minimum cost and the shortest period.

IECEx
International mutual certification system for explosion-proof electrical equipments established by the International Electro technical Commission

ATEX
A certification system that allows free trade with a common standard and one certificate within the European Union

KCs(Korean safety certification)
The Ministry of Employment and Labor comprehensively examines whether the safety performance of explosion proof, the technical ability and the production system of manufacture meet safety standards.

NEPSI
International laboratory recognized by the IECEx and authorized by the Chinese government. NEPSI certification is compulsory for explosion-proof equipment in accordance with China National standard.

NRTL (FM, UL etc.)
Certifications for North America.

Product Certification

Medical Device Certification

TEL : 02-6351-9005

Medical device certification means that the competent authority in a country or a specific jurisdiction approves the conformity of medical device according to the specific safety and performance requirements.
the conformity for medical devices to be distributed and sold in the European in accordance with EU council directives.
The European classifies medical devices by the intended purpose and applies different directives respectively;
- In Vitro Diagnostic Medical Device, 98/79/EC) is applicable to devices intended to be used in vitro for the examination of samples derived from the human body with a view to providing information on the physiological state, state of health or disease, or congenital abnormality thereof.
- Active Implantable Medical Devices, 90/385/EEC is applicable to any active medical device which is intended to be totally or partially introduced, surgically or medically, into the human body or by medical intervention into a natural orifice, and which is intended to remain after the procedure;
- Medical device Directive, 93/42/EEC is generally applied to all medical devices are not covered by the Active Implantable Medical Devices Directive or the IVD Directive (In Vitro Diagnostics).

◯ Classification of Medical Devices

| Medical Device |
(Medical Device Directive, 93/42/EEC)

The Medical Device Directive defines products into four different classes (class Is, Im, IIa, IIb and III), based on risk and intended use, which determine the relevant conformity assessment procedure in Annex IX.

ⓐ CLASS Ⅰ: Medical devices under this class has the lowest risk, such as devices that do not contact to the body, or contact in low level of risks
(Class I medical devices: bandages, compression hosiery, or walking aids, etc.)

ⓑ CLASS IIa: Devices under Class IIa is considered to be at slightly higher risk than Class I devices, But these medical devices have generally no possibility to serious injury or harm to patient or user as used in low risk level such as devices for inserting to body orifices for short term, or administration or exchange energy in low risk level
(Class IIa medical devices: stent, medical suction devices, dental filling material, etc.)

ⓒ CLASS IIb: This class of medical device has high level of risk such as devices for long term invasiveness, radiation treatment.
(Class IIa medical devices: X-ray devices, surgical suture, surgical laser, dialysis devices, etc.)

ⓓ CLASS Ⅲ: They are generally considered to be at the highest risk as it contacts to heart or central nervous system. Implanted devices, devices utilizing tissues of animal origin, device used in a hazardous way, etc.
(Class III medical devices: absorbable suture, spinal stents, breast implants, etc.)

◯ Items

| In- Vitro Diagnostic Medical Device |
(In-Vitro Diagnostic, 98/79/EC)

In- Vitro Diagnostic Devices (98/79/EC) defines products into different classes, based on the perceived risk associated with the relative danger to public health and intended purpose as follows:

ⓐ General IVDs
General devices include all IVDs other than those covered by Annex II and IVDs for self-testing.
(devices under general IVDs: bacteriological culture media, cell cultures for virus isolation, specimen containers)

ⓑ IVDs for Self-Testing(Self-Test)
The particular requirements for self-testing set out in the Directive exclude self-test devices covered in Annex II.
(*devices for Self-Testing:
home environment pregnancy testing kit, etc)

ⓒ Annex II, list A
devices under Annex II List A of the directive.
(*devices under List A: Reagent and reagent products for human immunodeficiency virus (HIV), human T-cell lymphotrophic virus (HTLV), etc.)

ⓓ Annex II, list B
devices under Annex II List B of the directive
(*devices under List B: Reagent and reagent products for: rubella, toxoplasma, etc.)
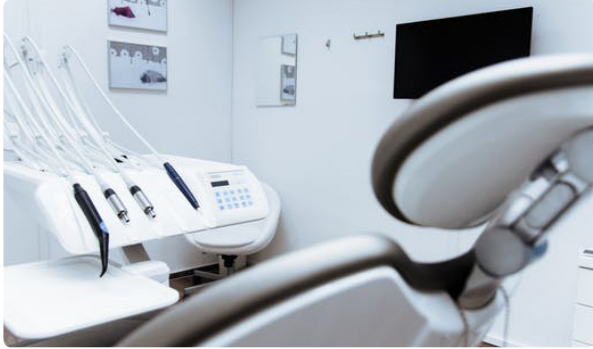
⬤ Business area

ICR provides certification services for CE marking in accordance with European Medical Devices Directive (93/42/EEC) and In Vitro Diagnostic Medical Device (98/79/EC) in all the levels of medical devices and in vitro diagnostic medical devices, through cooperation with 3EC International, a.s.. (NB No. 2265)

On 5 April 2017, 2 new Regulations on medical devices were adopted by the European . These replace the existing Directives.
- Medical Device Regulation (MDR) / REGULATION (EU) 2017/745
- In Vitro Diagnostic Medical Device Regulation(IVR) / Regulation (EU) 2017/746

The new rules will only apply after a transitional period. Namely, 3 years after entry into force for the Regulation on medical devices (spring 2020) and 5 years after entry into force (spring 2022) for the Regulation on in vitro diagnostic medical devices.
ICR shall provide the same service for new Regulations for medical device and in vitro diagnostic medical device.

| Certification Service |

- Medical Device (Medical Device Directive, 93/42/EEC) – devices under Class I, Class IIa, Class IIb and Class III
- In Vitro Medical Diagnostic Medical Device (In-Vitro Diagnostic, 98/79/EC)– devices under List A, List B, self testing IVD and general IVDs

Product Certification

Low Voltage Certification

TEL : 02-6351-9005

ICR has established laboratory in Gimpo and in Poland, as a result, ICR is able to provide fast, accurate and inexpensive product certification services for domestic, European and other countries. Electric electronic products must be certified compulsively / non-compulsively in each country, and their competence for production quality must be verified. Also, by strengthening follow-up management, people who use the product continuously and safety of their property should be guaranteed, not one-time certification. ICR provides speedy, accurate, and high-quality services to address the inconveniences caused by these difficult authentication requirements.

◗ Items

Electric electronic products with rated AC 50-1000V, DC 75V to 1500V

- **Information·Communication Electric devices**
  Computer, Notebook, Copy machine, Communication terminal etc.
- **Domestic Electric Appliance**
  Electric rice cooker, Washing machine, Vacuum cleaner, Air conditioner, Refrigerator etc.
- **Audio / video electrical devices**
  TV, camera, camcorder, PLC, sterilizer, temperature-humidity chamber, oven etc.
- **Measurement·control and laboratory electrical devices**
  Electrical devices parts and connecting parts, Electrical devices protection parts, Isolation transformers, Electrical devices, Power tools, Audio / video application, Information and communication devices, Lighting devices

ICR always strives for client convenience by providing various authentication solutions.

- KOLAS(Korea Laboratory Accreditation Scheme) has been designated as a nationally accredited testing institute and provides a test service with a strong credibility in the field of electrical / electronic and environmental / reliability.

- It is a compulsory certification system enforced by the National Electrical Appliance Safety Management Act. It provides electrical goods safety certification, autonomous safety confirmation, and testing and certification services for supplier conformity.

- In the safety certification for electric appliances, a factory inspection is conducted to check whether the quality of the electric appliances to be certified is continuously maintained.

- It is possible to issue a CE CoC certificate through its European certification authority ICR Polska.

- With detailed professional consulting service that starts from the product design stage, it minimizes the client's risk and expenses arising from domestic and international certification.

◯ Main Certification Service

Electrical appliances and domestic appliances that are sold in Korea under the Safety Management Act are compulsory certification schemes that must be certified according to laws and regulations. There are three main categories of safety certification, safety verification, and supplier conformity verification. Applicable devices are also different.

It is possible to acquire domestic certification smoothly through ICR's acting and testing service for complicated regulations and client's difficulties in the certification process.

In the "Electrical Appliance Safety Certification", a factory inspection is conducted to check whether the quality of the electrical appliances to be certified is maintained consistently. You will receive ISO 9001 quality service through ICR's rich human resources and high quality service.

In the European , electrical and electronic products rated from AC 50V ~ 1,000V, DC 75V ~ 1,500V have to meet these guidelines. It is possible to obtain a certificate (CoC : Certificate of Conformity) from ICR Polska as a Self-Declaring CE certification system to protect the safety of people, livestock and property from the following hazards.
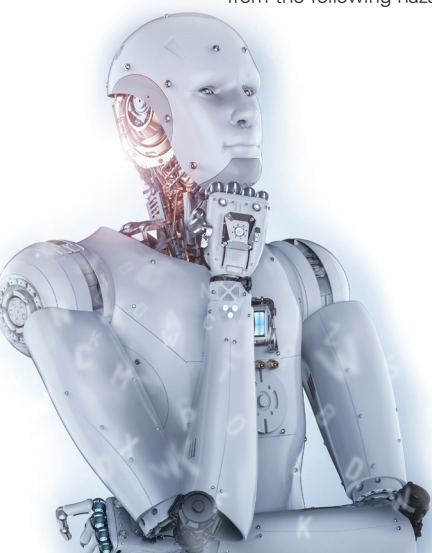
In order to export electrical appliances to the Americas, it is necessary to obtain the certification of the designated agency from the Occupational Safety and Health Administration (OSHA) under the US Department of Labor.

We will open the North American market (Including Canada) through consulting and testing services provided by ICR.

* The characteristics of the electric devices certification in the Americas are reviewed together with the factory inspection, and the experience of ICR and the service through quality human resources are available.

IECEE is an IEC system for conformity assessment system for electrical and electronic products and components. It is an international standard based certification system. The principle of mutual recognition of test results among the member countries of 43 countries is applied.

• There are no initial and regular factory inspections.

• The certificate does not expire.

• As the concept of CB Report, certification of each country has validity period.
  (Ex. China CCC - 3years, Singapore - 3years, Australia - 5years)

Product Certification
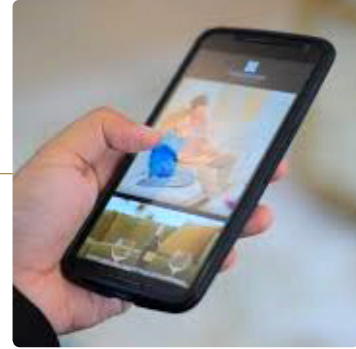
Radio devices Certification

TEL : 02-6351-9005

In modern society, radio devicess are one of the essentials. With the development of communication devices, modern society is gradually changing from wired to wireless, and we are providing services by linking various wireless functions so that one device can communicate with various radio devicess. Radio devices certification is an essential certification to protect your safety from harm caused by interference between these wireless products.

◗ Activity Area

ICR provides comprehensive certification services for radio devicess.

| Product Test |

We are able to test all of our radio devices through our lab and our partners.

| Product certification |

You can save valuable time and cost by reviewing the requirements related to national and international certifications, interpreting the standards, reviewing the technical documentation and supporting preliminary testing.

◗ Items

Radio devices are electrical and electronic devices that intentionally emit or receive wireless signals for wireless communication and wireless positioning purposes. Major radio devices certifications are listed below.

1. Field strength weak wireless device : Wireless charger etc.
2. Radio control for radio devices : Wireless toy control etc.
3. Radio devices for voice and sound transmission : wireless microphone etc.
4. Wireless access systems including wireless LANs and wireless devices for wireless data communication systems : Radio AP (2.4 GHz & 5GHz) / Bluetooth headset
5. RFID devices : – 900MHz band : Parking Control System
6. Radio devices for mobile communication : Cellphone(LTE & WCDMA)

◗ Main Certification

We have established international laboratory at Gimpo and Poland, as a result, we offer fast, accurate and inexpensive product certification services for domestic, European and other overseas certifications.

CE is a European integrated standard certification mark, which means that the product meets all the requirements of the EU Directive on the environment, safety, health and consumer protection. Consumer safety related products distributed within the European must be approved and CE-marked in accordance with the Radio devices Directive(2014/53/EU).

The **FCC** requires the test/certification of telecommunication devices under the US Federal Communications Act.
In case of a violation, the law involves sanctions for the whole distribution, including the import, sale, exhibition and advertisement of the product.

The certification of broadcasting communication devices is a compulsory certification system enforced based on Article 58-2 through 58-4 of the Radio Waves Act and Article 77-2 through 77-4 of the Enforcement Decree of the Radio Law. In order to manufacture, import or sell the broadcasting communication devices, you are required to obtain the certification applied to the relevant devices and attach an indication about it to the product.

TELEC is a wireless device certification system designated by the Japanese Ministry of Internal and Communications under the Japanese Radio Act. In order to export wireless communication devices such as mobile phones and weak radio devices to Japan, it must be certified by JAPAN MIC according to Japan Radio Law.

Other certification

● What is other certification?

In many countries, environmental, safety, hygiene and so on act as key elements of policy decision making, and the certification of related technologies and products is emerging as a determinant of market entry. In particular, for compulsory national standards, if they do not meet the standards, exports to the countries and local production are prohibited. As a result, Korean companies need to closely observe the standardization trends of overseas governments and prepare them in advance.

CCC (China Compulsory Product Certification)

The CCC compulsory product certification system is a product acceptance evaluation system for all products manufactured and distributed in China and products and parts imported into China based on laws and regulations. In order to obtain it, the certification of the designated certification body should be obtained and the safety / quality inspection should be carried out in the testing laboratory in China. If the product is deemed suitable, the CCC mark will be obtained and the product will be available for distribution.

CQC (China Quality Certification Center)

CQC certification is an autonomous certification system that allows companies to attach labels on their own initiative, aiming to improve product quality, enhance consumer safety and enhance corporate competitiveness. If you get CQC certification, you can enter the Chinese market smoothly. When you acquire CQC certification, you can shorten the time of CCC certification. Applying CQC and CCC at the same time is a way to acquire two certifications once the factory examination.

GCC (Gulf Cooperation Council)

Gulf Standards Organization regulates the entry of products subject to technical regulation into the GCC market. In order to launch a product in the Gulf region, you must obtain a certificate from a GCC accredited agency and attach a conformity mark to the product so that it can be sold in the GCC country.

EAC

Russia, Belarus, Kazakhstan. Individual certification GOST-R(Russia), GOST-K(Kazakhstan) and STB(Belarus) applied by these three countries are integrated into CU's EAC mark certification. In order to export machinery and devices to these three countries, you must have a CoC or DoC according to the technical regulations specified by the CU. In the case of CoC, you can acquire the certificate by recognizing CB / CE Safety certificate etc. through the designated test laboratory.

CR MARK (Vietnam quality mark)

The QEACERT(Vietnam Certification Center) product certification system is a product certification system accredited by JAS-ANZ(Australian New Zealand common system) and is an internationally recognized system. Among products that are subject to mandatory items such as machines, medical devices, toys, pressure vessels, and gas appliances, products sold in Vietnam must attach CR MARK through product certification.

Testing

Medical Device Test

TEL : 02-6351-9003

ICR provides test and technical supports for conformity assessment according to international standard for medical devices. Also, ICR always makes great endeavors constantly to provide high quality and competitiveness to our clients beyond the technical barriers for obtaining certifications in each country.

Items

- Medical Device

Test service

- Testing laboratory accredited by KOLAS (Certificate No. KT652)
- Testing laboratory accredited by IECEE CB scheme (Certificate No. TL637)
- Test and inspection service for certification of CE, FDA and others.

General Standard	Collateral Standard		Particular Standard(Major products Standard)	
IEC 60601-1 (Ed.3.1) Basic safety and Essential performance for Medical devices	IEC 60601-1-3	Radiation protection	IEC 60601-2-2	High frequency surgical devices
	IEC 60601-1-6	Usability	IEC 60601-2-3, 2-6	Short-wave&microwave therapy devices
	IEC 60601-1-8	Alarm systems	IEC 60601-2-4	Cardiac defibrillator
	IEC 60601-1-9	Environmentally conscious design	IEC 60601-2-5	Ultrasonic physiotherapy devices
	IEC 60601-1-10	Physiologic closed-loop controllers	IEC 60601-2-10	Nerve and muscle stimulators
	IEC 60601-1-11	Home healthcare environment	IEC 60601-2-18	Endoscopic devices
	IEC 60601-1-12	Emergency medical services environment	IEC 60601-2-22	Laser devices
			IEC 60601-2-25, 2-27, 2-47	ECG devices
			IEC 80601-2-30	Non-invasive blood pressure (NIBP) monitoring devices
			IEC 60601-2-37	Ultrasonic medical diagnostic and monitoring devices
			IEC 60601-2-44	X-ray devices for computed tomography
			IEC 60601-2-45	Mammographic X-ray devices
			IEC 60601-2-49	Multi-function patient monitoring devices
			IEC 60601-2-54	X-ray devices for radiography and radioscopy
			IEC 80601-2-60	Dental devices
			IEC 80601-2-61	Pulse oximeter devices
			IEC 60601-2-63, 2-65	Dental intra-oral & extra-oral X-ray devices
			IEC 61010-2-101	In vitro diagnostic devices(IVD)

The above accredited range is a list of major standards, Please check the web-site of Korea Accreditation Organization((https://www.kolas.go.kr/) for more details.

Technical supports for obtaining certification

- Regular/non-regular activities of education to understand standards for medical devices.
- Provide a guideline for making a technical document.
- Supports for technical problems from the product design process.

General Testing

- Sub-contracted test for quality of product performance.
- Product performance test for R&D tasks.

방사선 차폐 시험실
X-ray Shield Room

CBTL Test

TEL : 02-6351-9003

Based on the principle of mutual recognition between countries, clients can eliminate technical barriers and reduce the cost of certification and the time for it. Also, ICR always makes great endeavors to provide various services and understand the needs of clients.
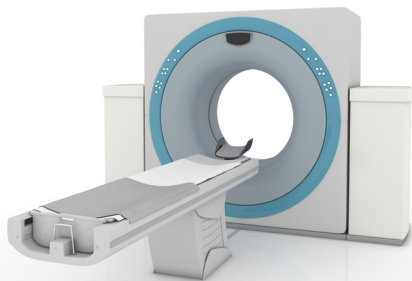
Items

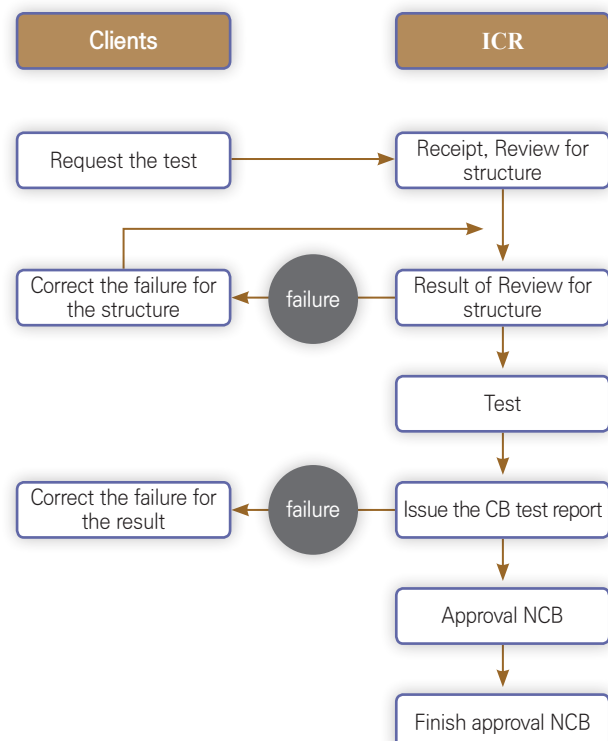- Medical and Electrical & Electronic devices

Test service

- International conformity assessment test according to IECEE CB Scheme

Benefits of CB certification

- Acquired multiple certification among IECEE member countries.
- Save the time and cost by acquiring multiple certification.
- prevent technology leakage for a new product.
- Ensure product-competitiveness based on international standards

Procedure

Clients		ICR
Request the test		Receipt, Review for structure
Correct the failure for the structure	failure	Result of Review for structure
		Test
Correct the failure for the result	failure	Issue the CB test report
		Approval NCB
		Finish approval NCB

Testing

Electrical & Electronic devices test

TEL : 02-6351-9003

The purpose of electrical and electronic devices testing is to verify each test item of the standard to avoid the risk of electric shock, fire, UV radiation, mechanical or chemical injury.
Safety tests are mandatory in major countries around the world. All of the electrical appliances placed on the market must demonstrate safety by testing in accordance with national safety standards.

◐ Items

- IT(Information Technology) and Office equipments: Monitor, PC, Printer, Adapter, Charger, Etc
- Audio / Video equipments: TV, Speaker, Amplifier, Audio Receiver, Audio Interface, Etc
- Household appliances: Massage appliances, Skin and Hair Care appliances, Microwave oven, Dishwasher, Coffee Machine, Etc.

◐ Test service

- KC: Safety Confirmation test and supplier Compliance Verification test
- CB, CE, UL, Intertek ETL, TUV SUD America Etc.
- General Performance Test (such as government research project)

◐ Technical Support Service

- Provide guidelines for applying the standard, from the product design phase

◐ General Test service

- Test to confirm quality control criterion
- Product performance test for Research and development project

Reliability (IP, Salt water corrosion, Gas corrosion) Test

TEL : 02-6351-9003

ICR provides various reliability test service to verify the protection level of products from environmental pollution.

⭕ Items

- Home Appliances
- Various switches and sensors
- Automotive electronics, etc.

⭕ Test Service

- IP Test, Salt water corrosion, Gas corrosion Test
  Relation Standards
  - IEC 60529 / KS C IEC 60529 / ISO 20653 /
    DIN 40 050-Teil 9 / JIS D 0203
  - KS D 9502 / ASTD B 117 / DIN 50 021-SS
  - IEC 60068-2-11 / KS C IEC 60068-2-11
  - IEC 60068-2-52 / KS C IEC 60068-2-52 /
    GMW 14872
  - MIL-STD-810 C / D / E / F / G : Salt Fog
  - IEC 60068-2-42 / KS C IEC 60068-2-42
  - IEC 60068-2-43 / KS C IEC 60068-2-43
  - IEC 60068-2-60 / KS C IEC 60068-2-60

Testing

Vibration environment/Transport packaging Test

TEL : 02-6351-9003

We offer a various support for our clients in order to improve a product quality and competitiveness by verifying a durability of vibration / shock required during using and transporting for various products throughout the industry such as automobile, air, railway, ship, military defense and secondary cell batteries.

◯ Items

- Automotive electronics
- Aircraft components
- MIL
- Railway components
- Ship and off-shore plant related materials
- Secondary cell batteries, related products
- Packed cargo, etc.

◯ Test Service

- Sweep sine vibration test / Random vibration test / Environmental combine vibration/ Packaging and transportation vibration test / Shock test / Drop test
  Relation Standards
  - IEC 60068-2-6 / KS C IEC 60068-2-6
  - IEC 60068-2-27 / KS C IEC 60068-2-27
  - IEC 60068-2-64 / KS C IEC 60068-2-64
  - KS R 9144 / KS R 9146 / KS R / IEC 61373 / KS C IEC 61373
  - MIL-STD-202G / MIL-STD-810 Series / MIL-STD-167-1A / RTCA DO-160G
  - ES 95400-10 / GMW 3172 / VW 80000 / TSC7000G / Renault 36.00.802

Environmental Test

We provide test items to check performance from various environmental factors that are exposes and to improve quality.

Items

- Automotive electronics
- Aircraft components
- MIL
- Railway components
- Ship and off-shore plant related materials
- Secondary cell batteries and related products, etc.

Test Service

- Low temperature test, High temperature test, Temperature shock test, PTC test, Accelerated aging test, Humidity test, Complex environmental test Relation Standards
  - IEC 60068-2-6 / KS C IEC 60068-2-6
  - IEC 60068-2-27 / KS C IEC 60068-2-27
  - IEC 60068-2-64 / KS C IEC 60068-2-64
  - KS R 9144 / KS R 9146 / KS R / IEC 61373 / KS C IEC 61373
  - MIL-STD-202G / MIL-STD-810 Series / MIL-STD-167-1A / RTCA DO-160G
  - ES 95400-10 / GMW 3172 / VW 80000 / TSC7000G / Renault 36.00.802

Testing

Material and Failure Analysis

TEL : 02-6351-9003

ICR provides test and technical supports for conformity assessment according to international standard for medical devices. Also, ICR always makes great endeavors constantly to provide high quality and competitiveness to our clients beyond the technical barriers for obtaining certifications in each country.

⭕ Failure Analysis Service

- Semiconductor Packaging Defect Analysis : Component, IC Chip, BGA
- PCB Defect Analysis : Surface Treatment, Non/De-wetting, Via hole, Pre-preg
- Solderability Test
- Dye Penetration Test
- Material Fracture Analysis
- Foreign Substance Analysis : Organic / Inorganic Component Analysis
- Coating & Welding Part Analysis : Thickness, Component, Defect, Property Evaluation
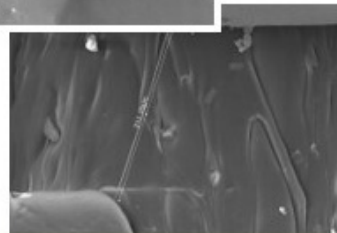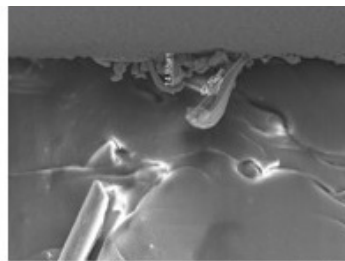- Disassembly Analysis of Electric/Electronic Sub Assembly(ESA) Parts

⭕ Lead-Free Soldering Analysis for HKMC's Vehicles

- ES90000-01 : Soldering Acceptability Requirements of Electronic Assemblies
- ES90000-02 : Specification for Delamination Criteria of Automotive Semiconductors
- ES90000-04 : Environmental Reliability Test Spec. Of Lead-Free Soldering

⭕ Destructive Inspection

- Sample Pretreatment : Epoxy Mounting, Micro Polishing, Ion Milling
- De-cap : Semiconductor IC Chip Decapsulation (Laser System)
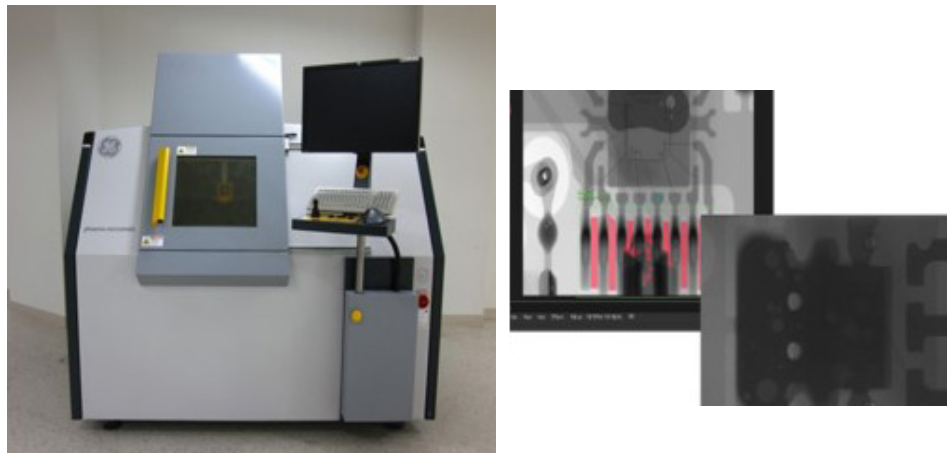
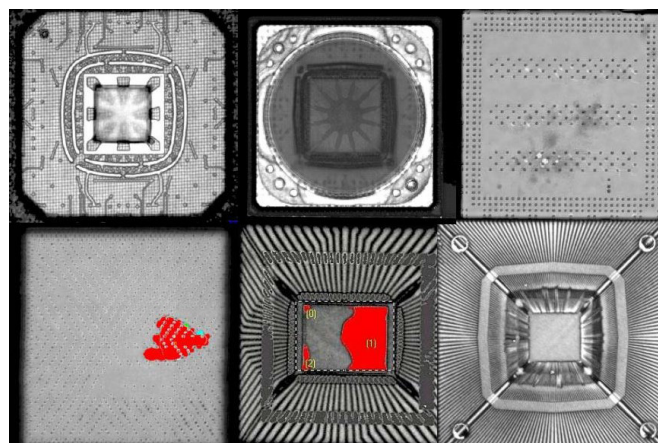SEM(전자현미경), SAM(초음파현미경)

Material and Failure Analysis

Non-Destructive Inspection

- Transmission-Type Non-Destructive Inspection : X-ray (2D & 3D)
- Scanning Acoustic Microscope (SAM) : A-Scan / C-Scan / T-Scan
- Electrical Characterization : Curve Tracer

X-ray

반도체 박리

Testing

Commercial Grade Item Dedication

TEL : 02-6351-9003

The ICR Laboratory provides authentication procedure services to provide reasonable assurance that a commercial grade item(CGI) will perform its safety function at the nuclear power plant.

◗ Applicable Items

- General Industrial Electronic Components and Devices
- Industrial Digital Devices
- Industrial Machinery Parts
- Industrial Material Parts

◗ Test Services

| Customer Support Services |

- Test and Inspection
- Technical Evaluation Support
- Supplier Survey Support
- Regulatory Entity Correspondence Support

| Applicable Code & Standard |

- KINS/RG-N17.12 : Verification of quality of general standard products for substitution of safety related items
- NRC Generic Letter 89-02 : 1989 Actions to Improve the Detection of Counterfeit and Fraudulently Marketed Products
- EPRI NP-6406 : 1989 Guidelines for the Technical Evaluation of Replacement Items in Nuclear Power Plants (NCIG-11)
- EPRI NP-5652 : 1988 Guideline for the Utilization of Commercial Grade Items in Nuclear Safety Related Applications (NCIG-07)
- EPRI TR-102260 : 1994 Supplemental Guidance for the Application of EPRI Report NP-5652 on the Utilization of Commercial Grade Items
- EPRI TR-106439 : 1996 Guideline on Evaluation and Acceptance of Commercial Grade Digital Equipment for Nuclear Safety Applications
- EPRI TR-1025243(3002002982) : 2013(2014) Plant Engineering: Guideline for the Acceptance of Commercial-Grade Items in Nuclear Safety-Related Applications
- EPRI 3002006066 : 2015 Plant Engineering: Guideline for the Acceptance of Commercial-Grade Items in Nuclear Safety-Related Applications
- EPRI TR-017218 : 1999 Guideline for Sampling in the Commercial-Grade Item Acceptance Process

◗ Possession Equipment

| Electronic Test Equipment |

Withstanding Voltage Tester, Insulation Resistance Tester, Over Current Tester, Data acquisition Device, Micro ohm Meter, AC/DC Power Supply, LCR Meter, Temperature Measurement Device, Relay Protection Tester, Electronic Characteristic Tester, Oscilloscope, Functional Generator, Source Measure unit.

| Mechanical Test Equipment |

Material Analysis Equipment, Universal Tensile Measurement Tester, Elongation Percentage Measurement Equipment, RPM Measurement Device, Air Flow Tester, Dimension Measurement Device, Weight Measurement Device, Thickness Measurement Device, Circuit Breaker Aging Tester, Switch Aging Tester, Pressure Measurement Tester.

Photobiological Safety Test

Radiance and irradiance of light source and light source system (LED, UV lamp, IR lamp) used in electronic products except laser are measured and tested according to the photobiological safety standard (IEC 62471, IEC TR 62778)
We provide a service for labeling, based on IEC/EN 62471 classification.

⬤ What is photobiological safety?

- Influence of lighting equipment or light source on human body
  That is, it is judged by examination whether it is harmful to eyes or skin.

⬤ Safety standards IEC / EN 62471?

- Evaluate exposure to UV, infrared and blue light on your eyes and skin. (Chronic blue light exposure can cause retinal injury.)
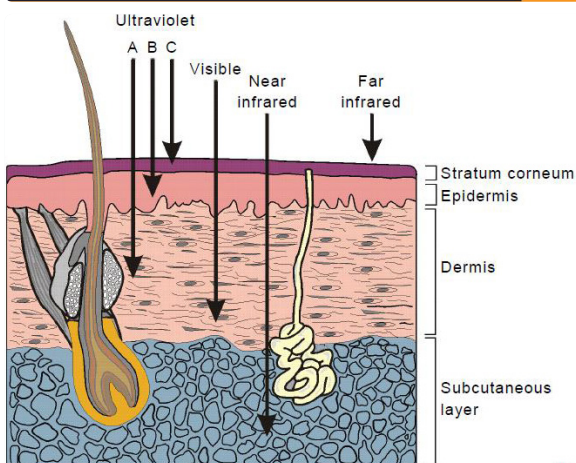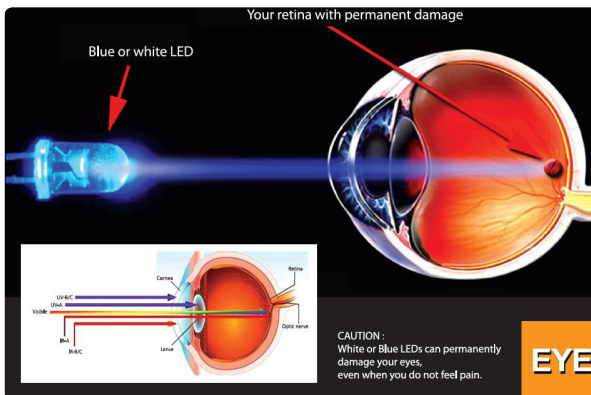
Examine whether the lighting product or light source is harmful to the eyes or skin.
If the user knows the risk level of the product,
When using a high grade product, ensure that the lamp
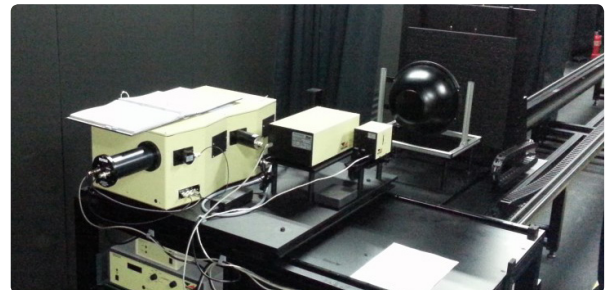Measures can be taken to avoid direct exposure or skin exposure.

- Europe: Required for CE marking

⬤ Applicable Items

- All sources except laser

⬤ Test Services

- IEC / EN 62471
- IEC / EN 62471-5
- IEC TR 62778
- United States (ANSI RP27.1), Japan (JIS C 7550)

Testing

## Energy Efficiency Test

TEL : 02-6351-9003

The energy standards and labeling program is a must-have system for the manufacturing (import) companies to produce and sell energy-saving products from the production (import) stage and is the centerpiece of Korea's efficiency management system. e-Standby program induces the manufacturers to select sleep mode during the standby. It also induces the minimizing of standby power. And it is a system that energy saving marks are placed on products that meet the requirements mandated by the e-Standby program, and warning labels are mandatory for products that fail to meet the requirements.

Items

- Energy Efficiency : Electric Refrigerator, Kimchi Refrigerator, Electric Hot And Cold Water Dispenser, Electric Rice Cooker, Commercial Electric Refrigerator, Electric Fan, Adapter/ Charger, TV, Electric Dehumidifier, Microwave oven, Set Top Box
- Standby Powrer : Audio, Door Phone, DVD Player, Radio Cassette, Microwave Oven, Hand Dryer, Wired / Wireless Telephone, Bidet, Server, Digital Converter, Wired / Wireless Router

Test service for other regulation

- ENERGY STAR, DOE, CEC, NRCan, ErP, MEPS, Measurement of energy consumption, Energy efficiency assessment, Power consumption test in standby and off state, Efficiency/Standby Power Test
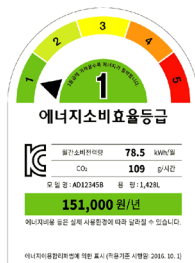
Electrical & Electronics / Medical EMC Test

We provide test items to check the performance and improve the quality considering the usage environment of electric and electronic / medical device products.

Item

- PC & Peripheral device, Server, Monitor, printer, scanner, etc.
- Electric chair, Motorized adjustable beds, Electric heated mat, Oral hygiene device, etc.
- Blood analysis apparatus, Simulator device, linear accelerator for medical, Mess spectrum for medical, etc.
- Oxygen therapy device, Pulse conductor, Skin infrared, Infrared radioscope, etc.
- Other device : E-bike, elevator, fire alarm detector, 5G mobile telecommunication, etc.

Certification service

- KC
- KOLAS
- CE CoC / DoC
- FCC
- Vietnam

Test service

- Household device : EN 55014-1, EN 55014-2, KN 14-1, KN 14-2, CISPR 14-1, CISPR 14-2
- Information and Communications device : EN 55032, EN 55035, KN 32, KN 35, CISPR 32, CISPR 35
- Medical device : IEC 60601-1-2, EN 60601-1-2
- Generic standard : IEC 61000-6-1, IEC 61000-6-2, IEC 61000-6-3, IEC 61000-6-4, EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4, CISPR 11, EN 55011, KN 11
- Other device : KN 15194, KN 12015, KN 12016, KN 101, KN 301 489-1, KN 301 489-50, etc.
  EMC contact number 02)6351-9002

Testing

Automotive EMC Test

TEL : 02-6351-9002

We provide Automotive standard and Vehicle manufacture specification in order to check the performance and improve the quality considering the usage environment of Automotive products.

⊙ Items

- Car Audio, Navigation, Car AVN, Cruise Control, ACU(Airbag Control Unit)
- FATC (Full Automatic Temperature), Cluster, ECU(Engine Control Unit), BCM, etc.

⊙ Test service

| International |

- CISPR 12
- CISPR 25, EN 55025, ISO 7637-2, ISO 7637-3, ECE R10.05, ISO 11452-8, ISO 11452-9, IOS 10605, IOS 16750-2
- ISO 11451-2, ISO 11451-3, ISO 11451-4, ISO 11452-1, ISO 11452-2, ISO 11452-4
- SAE J1113/4, SAE J1113/11, SAE J1113/12, SAE J1113/13, SAE J1113/21, SAE J1113/22
- SAE J1113/23, SAE J1113/41, SAE J1113/42

⊙ Certification service

- KOLAS

⊙ Vehicle manufacture specification

- HYUNDAI/KIA : ES 96200-00
- VOLKSWAGEN : TL 965/TL82066, TL82166, TL82366, TL82466, TL82566, TL81000
- GM : GMW 3097
- Ford : EMC-CS-2009-1
- BMW : GS 95002
- Renault : 36-00-808
- VOLVO : STD-515-0003
- SSANGYOUNG : SES E 922

Military & Nuclear plant EMC Test

We provide test items to check the performance and improve the quality considering the usage environment of Military and Nuclear plant products.

Items

- Military subsystem and equipment
- Electrical and electronic products for power facilities
- Applied to IEC
- Safety class equipment
- Power plant equipment
- Non-safety class equipment

Certification service

- KOLAS (Military and Nuclear plant)

Test service

| Military |
- MIL-STD-461 E, 461 F, 461 G

| Nuclear Plant |
- NRC REGULATORY GUIDE 1.180
- EPRI TR-102323
- IEEE Std C37.90.1, C37.90.2, C37.90.3, C62.41, C62.45

Testing

Railway& Ship EMC Test

TEL : 02-6351-9002

We provide test items to check the performance and improve the quality considering the usage environment of Railway and Ship products.

◗ Items

- Integral air-conditioner for railway vehicles, Auxiliary power unit, Compressor starting device, Arc sensor, Air conditioning devices, etc.
- Maritime electronic system devices, Oil separator, etc.

◗ Test service

| Railway |

- EN 50121-1, EN 50121-2, EN 50121-3-1, EN 50121-3-2, EN 50121-4, EN 50121-5, IEC 60571, IEC 62236-4, IEC 62236-5, IEC 62236-3-1, IEC 62236-3-2, KS C IEC 60571, KS C IEC 62236-1, KS C IEC 62236-2, KS C IEC 62236-3-1, KS C IEC 62236-3-2

| Ship |

- IEC 60945, IEC 60533, IEC 60092-504, KS C IEC 60533, KS X IEC 60945, KS C IEC 60092-504, KS C IEC 62236-4, KS C IEC 62236-5, KR

◗ Certification service

- KOLAS

RF test

RF test is designed to create a clean and efficient wireless environment for devices that uses radio waves to transmit data / energy. It is necessary to verify that the radio signal is being used in its intended form and usage and that it does not interfere with other wireless signals.

Items

- Wireless AP, BT headset, Zigbee, FRS(Family radio system), TRS(Trunked radio system), Wireless controller for toy, Weak field strength wireless devices, TPMS(Tire pressure monitoring system), RFID device, Wirelss Charger, Tablet PC, Smartphone, etc.

Test Service

- The Wireless Telegraphy Act, Enforcement ordinance of The Wireless Telegraphy Act, Radio devices Rule, Radio devices for Telecommunications Business, Technical standards for other commercial radio devices such as radio devices for simple radio stations, space stations, earth stations, and radio devices for radio wave detection
- ETSI EN 300 328, ETSI EN 301 893, ETSI EN 300 440, ETSI EN 300 220-2, ETSI EN 303 417, ETSI EN 300 330, EN 301 908-1, EN 301 511
- ARIB STD-T66, ARIB STD-T71, ARIB STD-T106, ARIB STD-T107
- FCC Part 15 Subpart C (15.207 and 15.209, 15.247, 15.249, 2.1049), FCC Part 15 Subpart E (15.407), FCC Part 22 Subpart H (22.917) and FCC Part 24 Subpart E (24.238)

Certification Service

- Certification of Conformity, Registration of Compatibility (KC)
- RED CoC/DoC
- FCC certification
- Japan – MIC

Management System Certification

ISO 9001 / ISO 14001 / ISO 45001 / ISO 22000

TEL : 02-6351-9001

The Management System Certification Division of ICR has been accredited by Korea Accreditation Board(KAB) and ANSI-ASQ National Accreditation Board(ANAB) for ISO17021-1 (Conformity assessment - Requirements for bodies providing audit and certification of management systems requirements), and has provided high quality management system audit service for the clients who want to enter the domestic(Korea), North American, and/or European markets.

Currently, approximately 16,000 organizations are certified for quality, environmental, occupational health and safety management system by us. It represents that the Management System Certification Division is providing the management system audit service which is as systematic, efficient, effective, and substantial as the number of certified clients. Also, the Management System Certification Division makes great endeavors constantly to provide high quality audit service for the certified clients and potential clients who want to improve their management system continually.

◉ ISO Certification System

Korea	Accreditation body	Certification body	Organizations
• Korea • USA	• KAB • ANAB	• ICR	• Certified clients
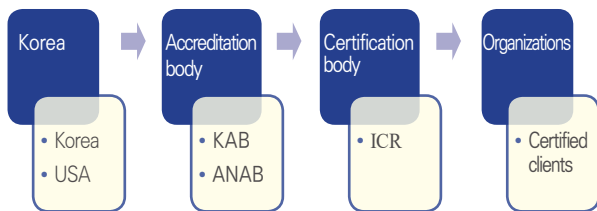
◉ ICR Management System certification standards

| Quality Management System (ISO 9001) |
System conformity certification for ISO 9001 standard

ISO 9001 is a family of standards established by ISO (International Organization for Standardization) that are related to quality management systems and are designed to help organizations ensuring to meet the needs of the client and other interested parties. Because the applicable fields of the standard may include all the industrial sectors covering not only the manufacturing, construction, and service, but also public service sectors such as school and local autonomy, the importance of the certification is emphasized.

| Environmental Management System (ISO 14001) |
System Conformity certification for ISO 14001 standard

ISO 14001 is an international standard for environmental management system legislated by ISO (International Organization for Standardization). To be more specific, ISO 14001 is a management system that has to be adopted by an organization for continually removing or reducing environmental hazards faced by the organization, by systematically identifying, evaluating, controlling and improving and environmental aspect that is generated in the course of managing an organization. Requirement of environmental management system in the global trade is now spread over the whole of the industrial fields, and the

environmental management system is required in some industrial fields as an important obligatory factor for successful business opportunity. The standard may be applicable to any organizations across all the industries regardless of size just like that of ISO 9001(QMS).

| Occupational Health and Safety Management System (ISO 45001) |

System Conformity certification for ISO 45001 Standard

OHSMS (Occupational Health & Safety Management System) is a management system that is determined to anticipate and prevent in advance the occupational health and safety hazards of employees that may occur in work sites to organizationally secure, improve and manage the health and safety of the employees. It is remarkable that international certification bodies participated in the joint legislation by mutual agreement. It indicates that Occupational Health & Safety Management fields are approaching an imminent selection as an international standard. As OHSAS 18001, which was previously a collective standard, is adopted as an international standard (ISO 45001), it is expected to spread over to the whole industry in the future.

Food Safety Management System (ISO 22000)

I System conformity certification for ISO 22000 Standard I

ISO 22000 is a certification standard for Food Safety Management System. Food safety is the prevention, elimination, and control of food-borne hazards, from production to consumption. Risks to food safety can be found at any stages of the process, and every organization involved in the food chain shall perform appropriate risk controls. In fact, food safety can only be sustained not only by producers' efforts but also by the efforts of both the government and the seller as well as consumers. ISO 22000 defines the requirements for food safety management systems for businesses with in the food chain at an international level. In particular, it is expected that it will be a great help if an organization that pursues a clearer, more consistent, and integrated food management system than required by law in general.

ICR Management System Certification Records

| ISO 9001 Certification Records |

SK Telecom Co., Ltd., SAMSUNG ELECTRONICS SERVICE Co., Ltd., CUCKOO ELECTRONICS CO., LTD., WOORI HOMESHOPPING Co., Ltd., KOREA BASIC SCIENCE INSTITUTE, HANSOL Technics Co., Ltd., JW PHARMACEUTICAL CORPORATION, KYOCERA PRECISION TOOLS KOREA, Ministry of Justice 1345 Immigration Contact Center, Nhong Shim Kellogg Co., Ltd., Chaesundang Co., Ltd., Gunpo City Facilities Management Corporation, SK Networks Service Co., Ltd., Gangneung City Complaints Call Center, Korea Aerospace Research Institute, TONYMOLY Co., Ltd., ASIANA IDT CO., LTD.

| ISO 14001 Certification Records |

SK Telecom Co., Ltd., YG-1 Co. Ltd., Hanmi Pharm Co., Ltd., HANSOL Technics Co., Ltd., KYOCERA PRECISION TOOLS KOREA, JW PHARMACEUTICAL CORPORATION, IT'S HANBUL Co., Ltd., ASIANA IDT CO., LTD., TONYMOLY Co., Ltd., Chaesundang Co., Ltd., Gunpo City Facilities Management Corporation,

| ISO 45001 / OHSAS 18001 Certification Records |

Hanmi Pharm Co., Ltd., ASIANA IDT CO., LTD., HANSOL Technics Co., Ltd., ASSA ABLOY Korea Samhwa Precision Co., Ltd., LIXIL KOREA INC., COSMECCA KOREA CO., LTD., Gunpo Cultural Foundation, INCHEON GYEYANG CITY FACILITIES MANAGEMENT CORPORATION

Management System Certification

ISO 13485 | **Medical devices** | – Quality management systems Requirements for regulatory purposes

TEL : 02–6351–9001

ISO 13485 specifies requirements for a quality management system where an organization needs to demonstrate its ability to provide medical devices and related services that consistently meet client's demand and applicable regulatory requirements.

◉ ISO13485:2016

While this is a stand–alone standard, it is based on ISO 9001:2008, which has been superseded by ISO 9001:2015. This third edition of ISO 13485 cancels and replaces the second edition (ISO 13485:2003) and ISO/TR 14969:2004, which have been technically revised. If any requirement in Clauses 6, 7 or 8 of this International Standard is not applicable due to the activities undertaken by the organization or the nature of the medical device for which the quality management system is applied, the organization does not need to include such a requirement in its quality management system.

Comparing ISO13485:2003, ISO13485:2016 is intended to
- facilitate global alignment of appropriate regulatory requirements
- apply a risk based approach to the control of the appropriate processes needed for the quality management system
- supplement and clarify the requirements for verification, validation and design and development activities
- strengthen the requirements for supplier control and outsourcing process
- emphasize importance of feedback mechanism
- add requirement for validation including the validation of the application of computer software used in the quality management system

◉ Application of ISO 13485:2016

Unlike ISO13485:2003, ISO13485: 2016 specifies requirements for a quality management system that can be used by an organization involved in one or more stages of the life–cycle of a medical device, including design and development, production, storage and distribution, installation, servicing and final decommissioning and disposal of medical devices, and design and development, or provision of associated activities (e.g. technical support).

| Manufacturer | Authorized represent | Importer | Distributor |
| Sterilization service | Raw material supply | Delivery service | Maintenance |

◉ Certification and Training Program for Medical device quality management system

ICR Polska, which was established in Poland by ICR, is providing ISO 13485:2016 certification service as an accredited certification body to Polish Center for Accreditation (PCA) based on ISO 17021.
ICR is providing ISO 13485:2016 lead auditor training course and internal auditor training course as well as ISO 13485:2003, as a registered training provider to Exemplar Global, which was previously named as RABQSA that was created from the merger of the personnel certification activities of the U.S Registrar Accreditation Board (RAB) with the Australia–based Quality Society of Australasia (QSA)

- Certification service for ISO 13485: 2016 Medical device quality management system (ICR Polska Sp. z o.o.)
- Lead auditor training course and internal auditor training course for ISO 13485: 2016 Medical device quality management system (ICR)

Training (Lead Auditor Training)

ICR
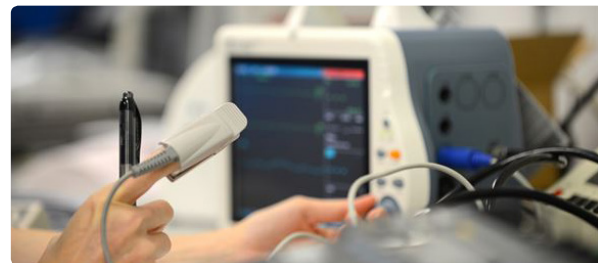
ICR International Certification Registrar Ltd. is an auditor training provider directly registered to Exemplar Global. ICR is a TPECS (Training Provider & Examiner Certification Scheme) which is registered in competency type; and it is easy to acquire competency as an auditor because the training is classified as module. In order to provide high quality service and fulfill the mission and role as global certification body, based on the transparent, trustworthy, and ICR has been holding training courses continuously to produce competent auditors. As a result, over 750 auditors are trained as competent auditors.

◑ Training course

Currently, ICR is registered for 6 modules, and providing the training. Followings are the training contents.

- TL module is a one-day course, except AU, QM, EM, OH and MD modules are two-day courses.
- Every auditor training courses are conducted through workshops and discussion lessons, and are providing exceptional competency to those who want to introduce or improve the management system including auditor candidates with a practical approach rather than theory explanation.

AU
Audit
Audit related Terms & Definition, Audit principle, Qualifications and characteristics of auditors, audit findings and nonconformity reports, management system audit guidelines (ISO 19011), Interviews and other matters

TL
Audit Team Leader
Roles and activities of lead auditor, Qualification of lead auditor, Certification body, Legal and ethical aspects

QM
Quality Management System
Basic concept of ISO 9001:2015 (Process approach, Risk-based thinking), ISO 9001:2015 requirements, ISO 9001:2015 Annex A/B, Clauses and requirements that requires documented information

EM
Environmental Management System
Environmental terns in ISO 14001:2015, ISO 14001:2015 PDCA model, ISO 14001:2015 requirements, ISO 14001:2015 Annex A/B, life cycle perspective and life cycle assessment

OH
Occupational Health & Safety Management System
Objective of ISO 45001, Requirements of ISO 45001, ISO 45001 operating, ISO 45001 application guide

MD
Medical Device Quality Management System
Comparison between ISO 13485:2016 and ISO 13485:2003, Terms and definition of ISO 13485:2016, ISO 13485:2016 requirements, Risk-based approach, Reinforced and clarified verification, Validity check and design activities.

Eastern Europe Certification

Eastern Europe Certification

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You should obtain the certification of the product for the countries, if you wish to export any product to Eurasian Custom Union country such as EACU, Russia, Republic of Belarus, Kazakhstan, Armenia, Kyrgyzstan and other Eastern Europe.

◖ Items

Here are item lists that should be certificated legally.

- machines for metalworking
- industrial products manufactured by metal
- armature
- structure manufactured by wood, metal and etc.
- farm machinery and electronic device
- Industrial production facilities
- household chemicals and cosmetics
- toys
- groceries and etc.

◖ Service

By cooperating with ICR Polska and other Europe institute, ICR is providing a wide range of certification service promptly and accurately. Also, ICR is accredited by KOLAS, Korea Laboratory Accreditation Scheme, as a nationally accredited testing institution, as a result, ICR is able to reduce of the period and reduces the cost of certification by testing directly Electrical & Elctronic, Reliability and Environment in domestic.

◖ Submission of documents

- application form
- design drawing, construction drawing, circuit diagram and pneumatic drawing
- test report and certification authorized
- BOM of component
- pictures and brochure of the product
- manual

◖ About main certification

For the certification, the product should be obtained more than one detail.

- GOST R certification and declaration of conformity
- EAC certification (Russia, Belarus, Kazakhstan, Armenia and Kyrgyzstan)
- GAZPROMCERT certification
- declaration and certification for fire safety
- certification of railroad
- certification of medical device
- BIO certification for natural groceries and cosmetics
- BelST certification of conformity (Belarus)
- Gost-K certification of conformity (Ukraine)
- State Customs registration certification
- certification of hygiene and epidemiology (Ukraine)
- International explosion proof certification (Russia, Ukraine and etc.)

Domestic / Overseas Partners

ICR and ICR Polska are providing various testing/certification services through association with domestic and overseas test/certification institute.

◗ Association Institute in domestic

KCL 한국건설생활환경시험연구원	Korea Conformity Laboratories	www.kcl.re.kr
FITI FITI 시험연구원 FITI Testing & Research Institute	FITI Testing & Research Institute	www.fiti.re.kr
KESCO 안전인증센터	Safety Certification Center	stc.kesco.or.kr
ktl 한국산업기술시험원 Korea Testing Laboratory	Korea Testing Laboratory	www.ktl.re.kr

◗ Association Institute in overseas

PREDOM OBR	ITE Oddzial PREDOM	Predom.com.pl
BBJ SEP	Association of Polish Electricians (SEP – BBJ)	www.bbj–sep.pl
OBAC	OBAC	Obac.com.pl
IOS	The Institute of Advanced Manufacturing Technology (IZTW)	www.ios.krakow.pl
PIMOT	Automotive Industry Institute (PIMOT)	en.pimot.org.pl

ICR