



Global Market Access (GMA)

FOR ELECTRICAL & ELECTRONIC (E&E) PRODUCTS

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SGS

Abstract

With ongoing growth of worldwide trading, in an increasing number of countries and regions have established their own type-approval systems to ensure the:

- Protection of the environment through a focus on the design, production and disposal of electronic products
- Health and safety of users and other stakeholders
- Consistency of electromagnetic compatibility requirements in accordance with Electro-Magnetic Compatibility (EMC) regulations
- Integrity of radio networks and avoidance of harmful interference, by ensuring that radio equipment uses only the allocated terrestrial/space communication, and orbital spectrum resources

SGS offers integrated one-stop Global Market Access (GMA) services for Electrical and Electronic (E&E) products, including ITE & mobile, household appliances, luminaires, audio/video, medical devices, photovoltaics, power supply, batteries, power tools and machinery products, E&E components, amongst others. Launched in 2007, SGS’s GMA service network has expanded to more than 150 countries and regions, covering all major and fast-growing markets.

Our international and professional type approval teams can provide a shortcut for your products to enter your target markets with more competitive pricing, shorter turnaround times and better-quality services.

SGS is the ideal partner for your worldwide marketing strategy.

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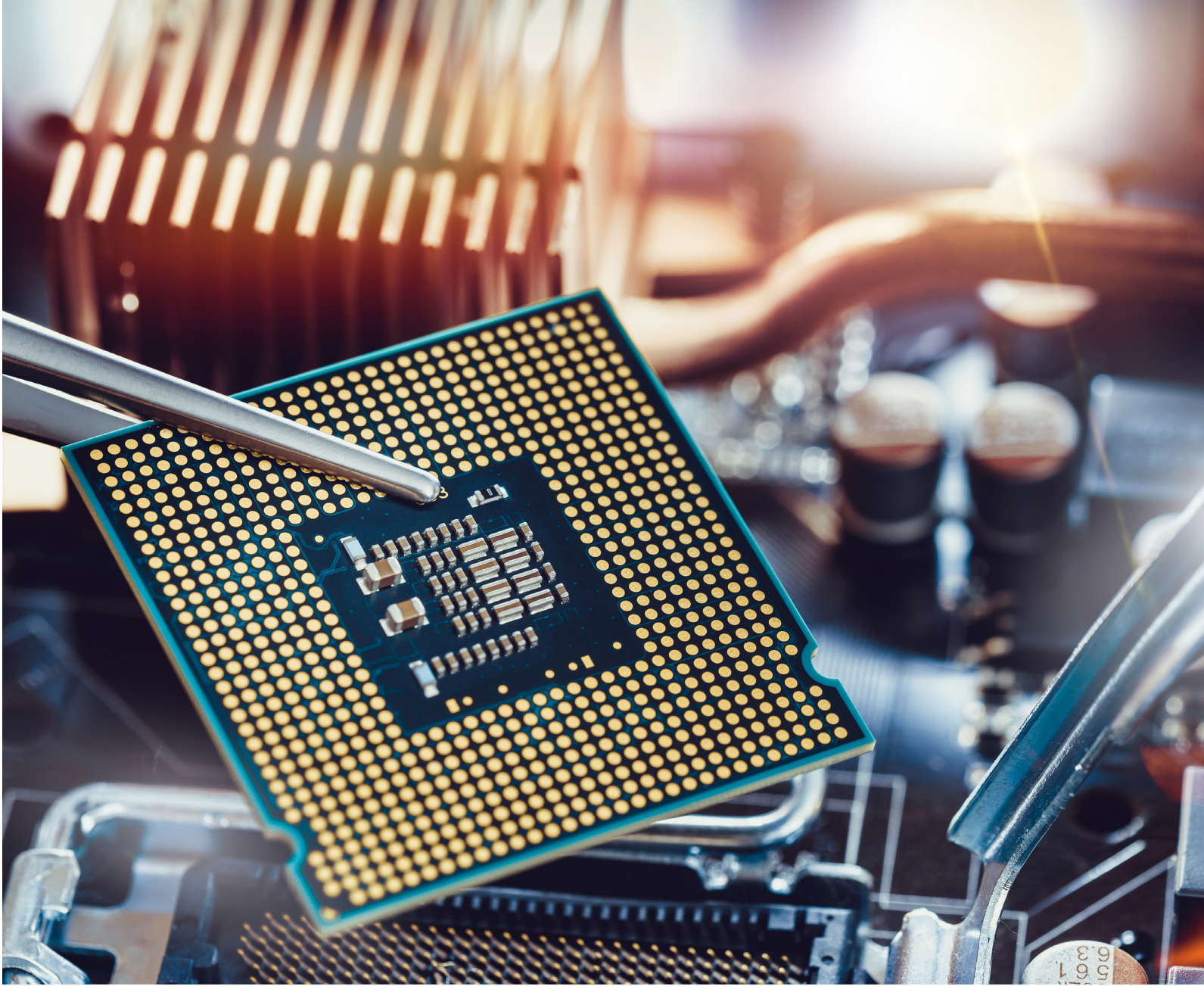
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I. Executive summary

THE GLOBAL MARKET ACCESS PROCESS REQUIRES:

- Product certification marks for market acceptance and recognition
- Streamlined and accelerated certification processes
- Faster turnaround times and better service quality
- Independent, third-party certification service providers known for their integrity and rigor

SGS’S GLOBAL NETWORK:

- Extensive global network with strong technical support from local experts and effective local customer service
- Leader in standards development
- An active driver in international committees for standard harmonization
- Supporter and provider of strong credentials amongst authorities

SGS’S CUSTOMER-FRIENDLY SERVICE PROVIDES:

- A consolidated global service and streamlined access to world markets, reducing your administrative and project management activities to a minimum
- Combined factory inspections to save your resources
- Participation in initiatives which protect consumers and support manufacturers against anti- counterfeiting practices
- A globally recognized promoter of a public safety mission

II. Certification marks

CB SCHEME

CB (Certification Bodies) is a mutual recognition scheme for product certification which is widely adopted by countries around the world. It symbolizes the IEC conformity of certified electrical products. The CB scheme has achieved recognition from its global CB member countries, as well as non-CB member countries and districts. Today, there are 54 CB member countries around the world, see Table 1.

The CB Scheme is intended to reduce obstacles to international trade which arise from having to meet different national certification or approval criteria. With a CB-certificate and test report you can apply national certifications/ approvals from any CB member country.

SGS’s global network includes three National Certification Bodies (SGS FIMKO in Finland, SGS CEBEC in Belgium and SGS Testing & Control Services Singapore Pte Ltd)

NCB (National Certification Body): A body which operates a national certification or approval scheme for electrical products under the CB Scheme.

Table 1. CB Scheme member countries

AMERICAS	ASIA	EUROPE
Argentina, Brazil, Canada, Chile, Colombia, Mexico, United States of America	Bahrain, China, India, Indonesia, Israel, Japan, Republic of Korea, Malaysia, Pakistan, Saudi Arabia, Singapore, Thailand, United Arab Emirates, Vietnam	Austria, Belgium, Bulgaria, Croatia, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Italy, Netherlands, Norway, Poland, Portugal, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, Ukraine, United Kingdom
AFRICA	OCEANIA	
Côte d’Ivoire, Kenya, Nigeria, South Africa	Australia, New Zealand	

CBTL: Testing laboratories recognized by the CB Scheme. A CBTL conducts tests and issues CB test reports for one, or more than one, product under the specific responsibility of an NCB.

The great benefit of the CB scheme is the savings it can achieve, in terms of both time and repeated testing.

For example, a company applies the national deviation of an import country, based on a CB test report and certificate issued by SGS, which conveniently converts the test report into one accepted by the import country. In principle, the company only needs to pay some surcharges to apply for the local certification without full testing, such as the FI and CEBEC marks.

CB SCHEME MARKING PROCESS



CE MARK

CE (Conformité Européenne) is a mandatory conformity mark required by European Union Directives when products are placed on the market in the European Economic Area (EEA) or in Switzerland. European Union Directives are legal acts which are implemented in the national legislation of every European Union member country.

A CE mark demonstrates that the product is assessed before being placed on the market and meets EU safety, health and environmental protection requirements. In the field of E&E products, assessment of the product is the obligation of the manufacturer. The manufacturer is any natural or legal person who manufactures a product or has a product designed or manufactured, and markets it under his name or trademark.

EEA (European Economic Area) members include European Union (EU) members and EFTA members (European Free Trade Association – Iceland, Lichtenstein, Norway, Switzerland). To facilitate free trade with the EU, EFTA members have adapted to EU law in several areas.

A CE mark is required for all E&E products entering the EEA market. It states that the product is assessed before being placed on the market and meets EU safety, health and environmental protection requirements. These requirements are defined in the Directives.

CE MARKING PROCESS



The CE mark is a mandatory conformity mark in Europe. The testing and technical file required for CE marking



Typical directives for E&E products are:

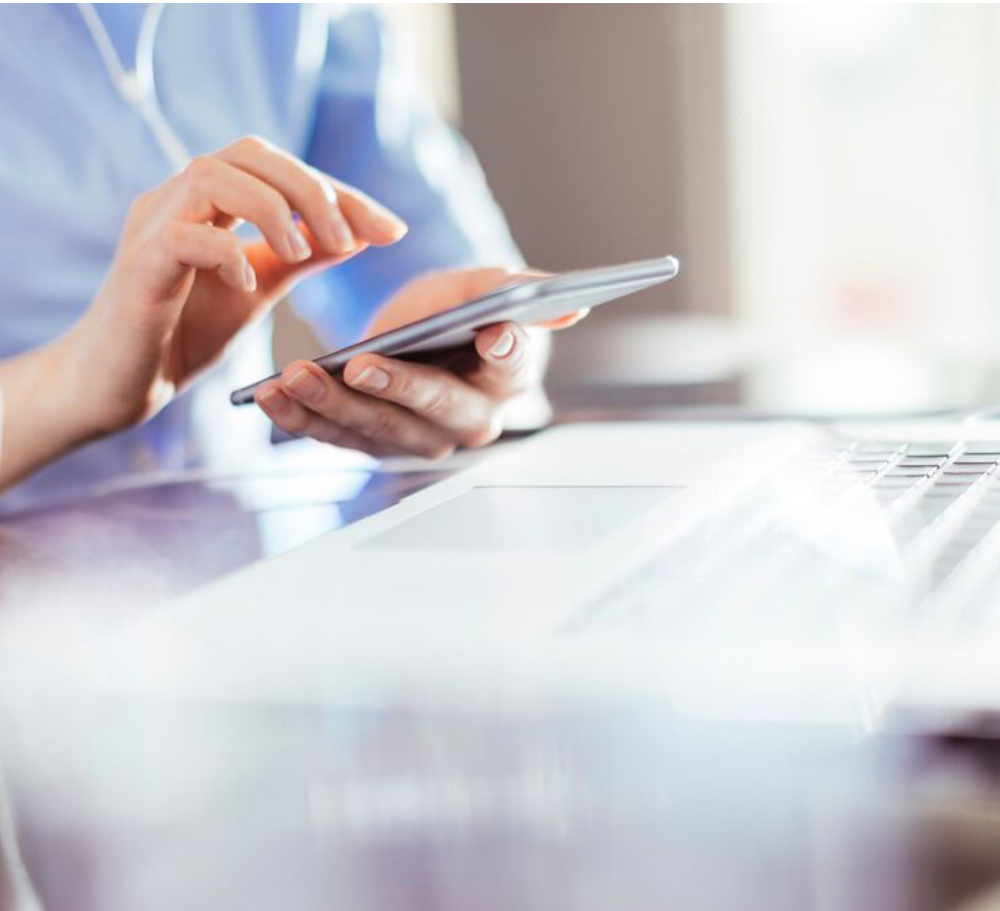
- Low Voltage Directive (LVD) (2014/35/EU)
- Electromagnetic Compatibility Directive (EMCD) (2014/30/EU)
- Machinery Directive (MD) (2006/42/EC)
- Medical Devices Directive (MDD) (93/42/EEC)
- Radio Equipment Directive (RED) (2014/53/EU)
- RoHS Directive (2011/65/EU) restricting the use of certain hazardous substances in E&E equipment

CE marking is based on self-declaration. The manufacturer is responsible for the conformity assessment process during both the design and production phases. Conformity assessment has to cover all relevant directives. The manufacturer shall compile the technical file and Declaration of Conformity (DoC). Product test results, including those covering safety, EMC, RoHS, etc., are an important part of the technical file. Product testing in SGS’s competent laboratories provides a good base for the conformity assessment process.

SGS can also provide you with specialized training to help you deal with other parts of the conformity assessment process. Manufacturers shall make the technical documentation available to authorities on request.

While conformity assessment is the manufacturer’s responsibility, if required by the relevant directive, a Notified Body must be involved in the conformity assessment procedure. When in doubt, independent, third-party companies, such as SGS, can help you clarify the requirements for your product.

The CE mark must be affixed to the product or to its data plate. Where this is not possible or not warranted on account of the nature of the product, it must be affixed to the packaging, if any, and to the accompanying documents, where the directive concerned provides for such documents. The CE mark must be affixed visibly, legibly and indelibly. If the CE conformity mark is reduced or enlarged, the proportions given in the above graduated drawing must be respected. Where the directive concerned does not impose specific dimensions, the CE marking must have a height of at least 5 mm.



GS MARK

The GS certification mark is a voluntary safety certification mark widely used in Germany and German speaking countries. It complies with German Safety Law and the EU unified standard. The GS safety mark is highly recognized by consumers and they favor purchasing GS certified products.

SGS Fimko is a Certification Body in the GS certification scheme. With the help of the SGS network you can apply the GS mark to your product.

GS MARKING

The GS scheme requires initial inspection in the manufacturing site before certification. Also, annual surveillance inspections are required to maintain the validity of the certificate. GS certification covers also the relevant GS Scheme requirements such as those for Polycyclic Aromatic Hydrocarbons (PAH), according to German legislation. Certification is valid for a maximum of five years.



GS MARKING PROCESS



CEBEC MARK

The SGS-CEBEC mark is a voluntary certification mark for Belgium. Belgian consumers prefer to purchase products that have the CEBEC mark. The appliance manufacturing and electrical installation industries prefer to use components with the SGS CEBEC mark to ensure quality. SGS is able to provide the safety mark for global electrical products.

Importing and exporting requires highly respected certificates with global recognition. The SGS-CEBEC mark for E&E, certifies compliance with the highest international safety and quality standards.

Advantages of the SGS CEBEC Mark:

- It confirms a company's continued compliance with international safety standards, confirmed by an independent reputable certification body
- It contributes to improving confidence between importers and manufacturers

In addition, the certification file created during application for the SGS-CEBEC mark can be used as the required "technical documentation", eliminating further complications or costs.

CEBEC MARKING

Initial inspection is required before certification and annual surveillance inspections are required to maintain the certificate's validity.



CEBEC MARKING PROCESS



FI MARK

The FI mark is a voluntary certification mark. European consumers and importers prefer to purchase products that have the FI mark. The appliance and electrical component manufacturers and electrical installation industry prefer to use products and components with the FI mark to ensure the safety and quality of their products.

The SGS Fimko FI Mark is a well known and respected impartial voluntary certification mark indicating the safety and quality of a product. The SGS FI mark can only be used on products that have a valid FI Certificate granted by SGS Fimko.

FI certification has a good global reputation and is widely used and recognized as a basis for local certifications and approvals.

FI MARKING

CERTIFICATION MARKS	COLOR VERSION	BLACK VERSION
FI mark Reflex Bluett		
FI Combination Mark		

The FI mark combined with the CE mark is an excellent route to accessing European markets.

With this combination your product is in conformity with European requirements and is found to be safe by an independent third party. For low-voltage electrical products and those in

the high voltage sector, consumer confidence is based on attestations of conformity, or test reports, from accredited bodies, or international certifications.

An annual factory inspection is required to maintain certification. FI Mark certification is valid for five years.

FI MARKING PROCESS



ENEC MARK

ENEC is the high-quality European Mark for electrical products that demonstrates compliance with European safety standards. European Certification Bodies in the electrical sector have opened the ENEC European Safety Mark to all electrical product sectors. In 2008, the ENEC Mark was expanded to household appliances.

The expansion of the ENEC Mark Certification Scheme to all electrical products creates a single independent high quality safety mark for Europe. The opening of the scheme to manufacturers worldwide, will improve the safety of electrical products being placed on the European market.

ENEC means safety in Europe, and all signatories of the ENEC Mark Scheme actively support its commitment to the highest safety levels.

Testing takes place in independent ENEC approved test laboratories worldwide, and in approved manufacturer laboratories, though some products must be tested in European laboratories.

ENEC certification is for products including, but not exclusively:

- IT equipment
- Safety transformers
- Luminaires and associated components
- Switches
- Household appliances
- Consumer electronics
- Couplers
- Connecting devices
- Controls
- Capacitors
- Filters
- Batteries



ENEC MARKING

This version of the ENEC Mark contains the Certification Body identifying number. It is for use on products only, has no minimum size, and does not include the tagline or URL.

An annual factory inspection is required to maintain certification. The validity of ENEC certification depends on the test standard and is usually five years.

ENEC MARKING PROCESS



ARGENTINA:
S MARK CERTIFICATION

Argentina National Secretariat of Industry, Trade and Mining, to protect humans, property and domestic animals from harm. It adopted resolution No. 92/98 requiring certain categories of consumer goods to complete mandatory certification. This includes all E&E equipment, apparatus or materials intended to be used by consumers, rated above AC50V or DC75V and below AC1000V or DC1500V. Resolution 197/04 established Argentina's safety certification system including a Mark of Conformity, Type and Batch. Since January 1, 2020, there are 60 categories of product for which approval for the S Mark of Conformity can be requested.

Key points for the S Mark certification scheme include:

- 1. Rating: AC220V/50Hz

2. Plug requirement:

- For Class I products: plug conformity to IRAM 2073
- For Class II products: plug conformity to IRAM 2063
- For Direct plug-in products: plug dimensions, conformity to the relevant IRAM standard (IRAM 2063 or IRAM 2073)

3. Annual factory inspection (every 12 months)

4. Annual surveillance test (every 12 months)



5. Fees payable twice a year (variable from certification body)

6. The certification system accepts IEC standards and Argentinian deviations

7. Certification mark S-Mark (System 5) with certification body IRAM (certification body logo can vary)

ARGENTINA'S S MARK CERTIFICATION PROCESS



ARGENTINA: ENACOM CERTIFICATION

Telecommunications equipment to be installed from the endpoints of the public telecommunications network and equipment making use of the radio spectrum, are subject to technical standards established by the Ente Nacional de Comunicaciones (Agency of National Communication).

ENACOM type approval is required for most telecommunication terminal equipment and radio frequency equipment.

The following information must be included on the product label, printed legibly, placed in a clearly visible location and indelible:

- Model no.
- Brand name
- Country of origin
- RAMATEL Logo & ID

For the product manual and packaging, the above information is optional.

All applicants must be companies registered both in Argentina and in the ENACOM database before submitting applications.

ENACOM certification is valid for three years, and renewal is required every three years.

ARGENTINA'S ENACOM CERTIFICATION MARKING PROCESS



Battery. *Tested.*

BRAZIL:
INMETRO CERTIFICATION

INMETRO (the National Institute of Metrology, Standardization and Industrial Quality) was created in December 1973, with the primary task of improving the quality of life of the ordinary citizen, as well as seeking to improve the competitiveness of the economy through metrology and quality.

It is the executive secretary and executor of policies of CONMETRO (the National Council of Metrology, Standardization and Industrial Quality) and the forum for harmonization with government interests, Legal Metrology and the Technical Regulation Body.

INMETRO certification can be granted by a Product Certification Body (OCB) which has been accredited by the National Institute for Metrology, Standardization and Industrial Quality, to issue mandatory and voluntary certificates.

All products under mandatory INMETRO control must be certified and marked, or labeled, before entry into the Brazilian market.

The product categories below are subject to mandatory safety requirements:

- Household appliances
- Plugs
- Socket outlets
- Switches
- Flexible cords
- Circuit breakers
- Wires & cables
- Magnetic & electronic ballast
- Voltage regulators
- Medical devices
- Electrical equipment for hazardous locations

- LED lamps
- Microwave ovens
- Fans
- Drinking fountains
- Gas ovens
- Streetlights (LED and discharge)

Rating: 127V/220V (for single phase), 220V/380V (for three phase), 60Hz.

INMETRO MARKING

On successful completion of the certification process the INMETRO mark should be added to the qualified product, whether the certification is mandatory or voluntary.

All audit reports used for safety certification, both Factory Inspections and Importer Audits, are required before certification. Also, surveillance audits and testing are required to maintain certificate validity. INMETRO certification is valid for one to six years, depending on the product category.

BRAZIL'S INMETRO CERTIFICATION MARKING PROCESS (MODEL 5)



BRAZIL: ANATEL CERTIFICATION

ANATEL (Agency National Telecommunications) is the agency that homologates Brazil's Certificates of Conformity.

ANATEL certification is based on standards and regulated procedures which result in a specific certificate for telecoms products, issued by an OCD (certification body) approved by ANATEL. With this certificate it is possible to start homologation in ANATEL, which will allow the product to be commercialized.

According to this regulation, certification is now based on three schemes:

- Certification is now based on three models:
 - TYPE 1a scheme – Certification based on Type Testing.
 - TYPE 4 scheme – Certification based on Type Testing with Periodic Product Evaluation

(periodic maintenance) according to the Telecommunications Products Reference List

- TYPE 5 scheme – Certification based on Type Testing with Periodic Product Evaluation (periodic maintenance) and the Factory Management System

ANATEL MARKING

The ANATEL ID should be shown on devices. The ANATEL homologation logo is optional to be shown.



ANATEL HHHHH-AA-FFFFF

LICENSE HOLDER

The ANATEL CoH holder should be Brazilian company that registered in ANATEL system.

BRAZIL'S ANATEL CERTIFICATION MARKING PROCESS



ECUADOR: INEN CERTIFICATION

Ecuadorian law has established mechanisms for quality control procedures for the protection of consumers and penalties for violation of these rights – reparation and compensation for defects, damage or poor quality of goods and services, and for the interruption of public services not caused by unforeseen circumstances or force majeure.

Ecuador’s quality system laws, valid from February 2007, note in article 31 that: “Prior to the marketing of domestic and imported products subject to technical regulations, compliance must be demonstrated through the certificate of conformity issued by a certification body accredited in the country, or by those who have been issued in relation to the agreements of mutual recognition with the country”.

Domestic and imported products for sale and distribution in Ecuador, must comply with the mandatory technical regulations (RTE INEN) and Ecuadorian standards (NTE INEN) or equivalent international standards, prior to marketing.

Compliance must be demonstrated through a certificate of conformity (CoC) issued by an accredited certification body.

Once a product has shown compliance and the Authority has verified the validity of the CoC, a certificate of recognition (Form INEN-1) will be issued.

The following electrical & electronic products are subject to mandatory certification:

- Household appliances
- Audio-video products
- Lamps and lighting products
- Handheld power tools
- Wires for electrical conductors

INEN establishes the requirements for labeling, energy-efficiency labeling and marking. Although labeling requirements vary slightly for different products, all labeling must be in Spanish and include the following information:

- Name of the company
- Address and telephone number
- Tax registration number (RUC)
- Country of origin
- Net weight
- Sanitary registration number if required

ECUADOR’S INEN CERTIFICATION MARKING PROCESS



ECUADOR: ARCOTEL CERTIFICATION

The Agencia de Regulación y Control de las Telecomunicaciones (ARCOTEL) controls and establishes sanctions to fixed-line and wireless communications services in Ecuador.

For telecommunications terminal equipment that uses radioelectric spectrum and connects to public telecommunications networks,

it's mandatory to be homologated before ARCOTEL. For example, mobile phone, radio, CPE, wireless telephone, modem, AP, etc.

Equipment that uses radioelectric spectrum but doesn't connect to public network, such as BT devices, could apply voluntarily for an exemption letter.

ECUADOR’S ARCOTEL CERTIFICATION MARKING PROCESS



MEXICO: NOM CERTIFICATION

The Federal Law from Dirección General de Normas (DGN) is established and published. It designates those products requiring mandatory certification through the utilization of Norma Oficial Mexicana (NOM) standards, the official Mexican standards. The law also sets procedures for the certification of products to voluntary Norma Mexicana (NMX) standards, also known as the Mexican standards.

Mandatory certification of products covered by either NOM standards, or voluntary certification to NMX standards, must be carried out by a nationally accredited body or accredited body in a mutual recognition agreement (MRA) program. NOM certification is mandatory for customs clearance. To assess the conformity of products, procedures, services, etc., to be commercialized in the country, the Federal Law on Metrology and Standardization, and its regulations, has established conditions and procedures to create the national regulation.

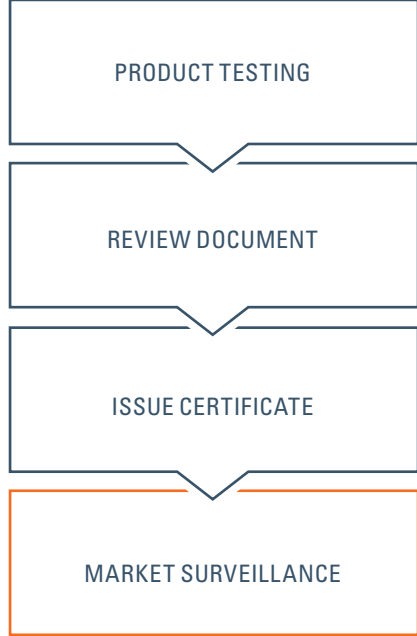
Mandatory NOM certification covers the following product types information technology, audio/video, power tools, household appliances, luminaires and others.

- Rating: AC127V is the official recognized voltage, some areas also use 120V/220V, 60Hz
- Plug and cord, in Mexico these are exactly the same specification as in the USA, NEMA
- The testing report is based on Mexico TRF
- Follow up inspection and testing are conducted within 6 to 12 months of a certificate's issue
- A Mexican company is required to be the certificate holder, but the importer should hold the main license, or co-license, for customs clearance

NOM MARKING



MEXICO’S NOM CERTIFICATION MARKING PROCESS



MEXICO: ENERGY CONSUMPTION

Energy consumption labeling is mandatory on all devices listed on the list of equipment published by the National Commission for the Efficient Use of Energy – CONUEE.

Label requirements:

1. The label must display the energy consumption per unit of time, such as W/h, kW/h
2. The label information must include at least energy consumption, quantity, unit, etc., and must be clear and visible

MEXICO: ENERGY EFFICIENCY

Mexican energy efficiency certification is part of mandatory product certification in Mexico. Products within the scope of mandatory energy efficiency certification must be tested and certified by an officially recognized testing organizations in Mexico, and be labeled with energy efficiency labels that reflect the energy consumption of the products before entering the Mexican market.



Drill. *Tested.*

MEXICO: IFT CERTIFICATION

The Federal Institute of Telecommunications (IFETELor IFT) is the Mexican government agency in charge of regulating spectrum, the networks and telecommunication equipment, etc.

Procedures, periods, and sample requirements schemes to carry out the IFT certification – evaluation of the conformity of a product, equipment, device, apparatus, or infrastructure intended for telecommunications, are subject to new Conformity Assessment Procedure (PEC) and homologation guidelines.

There are four available approval schemes of PEC:

- I. Single batch approval
- II. Single model multiple batches approval
- III. Family models approval
- IV. Telecom and broadcasting device approval (Telecom module is under this approval)

The homologation Guidelines include following Types of Homologation Approval Processes:

- I. Type A: This process considers testing and results in a Certificate of Conformity (CoC) issued by a local Certification Body (CB) (such as NYCE, ANCE, etc.) and a COH issued by IFT
- II. Type B: This process is made through Technical Opinion by an authorized "perito" and results in a CoH issued by IFT
- III. Type C: This process is applicable to products that are subject to both Type A and Type B

MARKING

Product labels should contain the following information:

- Product name
- Trademark
- NOM logo
- Manufacturer name

- Model number
- IFT logo



The license holder should be Mexican company which has registered in certification bodies' and IFT's website.

There are two kinds of validity for IFT certification:

- Provisional – Valid for two years and no expiration date after renewal
- Permanent – No expiration

MEXICO'S IFT CERTIFICATION MARKING PROCESS

1. Provisional Certification



2 Permanent Certification



RTCA: ENERGY EFFICIENCY CERTIFICATION

RTCA, Central American Technical Regulation, is approved by COMIECO (The Council of Ministers for Economic Integration), whose main member countries are Guatemala, Honduras, Nicaragua, Panama and El Salvador, Costa Rica.

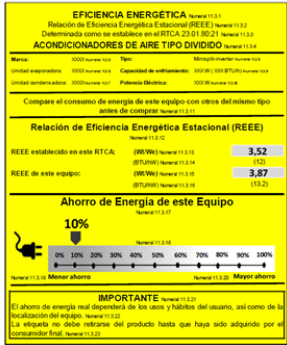
COMIECO has published RTCA energy efficiency regulations to establish the labelling requirements for some electrical and electronic products to be manufactured, imported, and marketed within the territory of its member countries.

The below electrical and electronic product categories are now subject to mandatory RTCA energy efficiency certification:

- Air conditioners (INVERTER/ON-OFF)
- Domestic refrigerators and freezers

According to RTCA regulations, these mandatory products should have a certificate of conformity (CoC).

Energy efficiency labelling is mandatory for controlled products, according to the regulations.



The CoC is valid for three years and annual surveillance is needed to maintain its validity.

RTCA'S ENERGY EFFICIENCY CERTIFICATION MARKING PROCESS



COLOMBIA: RETIE/RETILAP/ RETIQ CERTIFICATION

Colombia's Government Ministries established several mandatory Regulations for products that may affect consumer health. Most of the regulations require a Product Conformity Certificate as the way to evidence conformity with its requirements. The SIC (National Superintendence of Commerce) is in charge of surveillance of Accredited Bodies and verifies that all regulated products that are manufactured in or imported to Colombia have the Product Conformity Certificate.

Energy labeling is mandatory for controlled products according to RETIQ Regulation.

Currently, product certification is subject to safety and energy efficiency requirements:

- **RETIE:** Establishes safety requirements for products to be used on electrical installations. Some of the products covered include switches, power outlets, extension cords, motors/alternators, electric generators, PV module
- **RETILAP:** Establishes requirements for indoor and outdoor lighting. Some of the products covered include light bulbs (LED, CFL), luminaires (decorative, indoor, roadway)
- **RETIQ:** Colombia's regulation for energy efficiency. Products covered include air conditioning systems, gas/ electrical water heaters, refrigerators, washing machines, gas stoves

Follow-up surveillance should be performed to ensure certificate validity.

LICENSE HOLDER

Colombian and overseas companies are both eligible, however the importer should obtain their own license to proceed customs clearance.

Certificate Validity

Certificate is valid for one year or three years according to different certification scheme.

Technical Parameter: 110V, 60Hz

Plug: US Plug

MARKING

Label information should be in Spanish. Certified products can be labeled with the SGS Quality Mark with the applied Regulation number and Certificate number:



Energy labeling is mandatory for controlled products according to the RETIQ Regulation.



COLOMBIA'S RETIE/RETILAP/RETIQ CERTIFICATION MARKING PROCESS



COLOMBIA: CRC CERTIFICATION

The Communications Regulation Commission (CRC), originally established as Telecommunications Regulation Commission (CRT) by the Law 142 of 1994, regulates communications by promoting fair competition, issuing regulations and permits to operators, determining standards for equipment, monitoring services, and resolving conflicts among consumers and operators.

According to the Resolución CRC 5050 de 2016, the equipment subject to the homologation process is Mobile Terminal Equipment (ETM), which refers to device that has an

IMEI (International Mobile Equipment Identifier), or a similar identifier, by which accesses to the mobile telecommunications networks for voice and/or data communications services. Bluetooth and Wi-Fi devices are exempt from approval and a letter of dispensation can be obtained from CRC.

It is recommended that manufacturers apply for this letter even though it is voluntary, to avoid risk and enter the target mark quickly.

The ETM to be homologated should follow the exposure limits in the IEEE Std C.95.1 or by the ICNIRP for safety

levels with respect to human exposure to radiofrequency electromagnetic fields (EMF), in accordance with the safety limits expressed in terms of Specific Absorption Rate (SAR) and as established by ITU-T in Recommendation K.52 or those that modify or replace it.

The equipment must also operate in at least one of the frequencies duly allocated in Colombia for the IMT mobile service in accordance with the National Table of Frequency Band Allocation (CNABF), following the corresponding assignment of use.

COLOMBIA'S CRC CERTIFICATION MARKING PROCESS

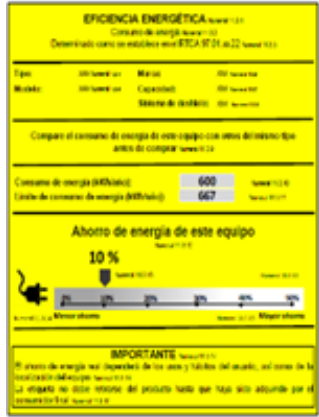


COSTA RICA: ENERGY EFFICIENCY

The Ministry of Environment and Energy of Costa Rica published the Decree N°41055-MINAE on August 3, 2017 to approve energy efficiency regulation RTCR 482:2015 for household refrigerators and freezers.

Since June 5, 2024, this regulation will be replaced by RTCA 97.01.81:22, which applies to household refrigerators and refrigerator-freezers of up to 1,104 litres (39 cubic feet) and household freezers of up to 850 litres (30 cubic feet) operated using hermetic motor-driven compressors.

A certificate of conformity (CoC) for RTCA and energy efficiency labelling will be required since then.



The certificate is valid three years. Annual surveillance should be performed to ensure the certificate validity.

COSTA RICA ENERGY EFFICIENCY CERTIFICATION PROCESS



COSTA RICA: SUTEL CERTIFICATION PROCESS

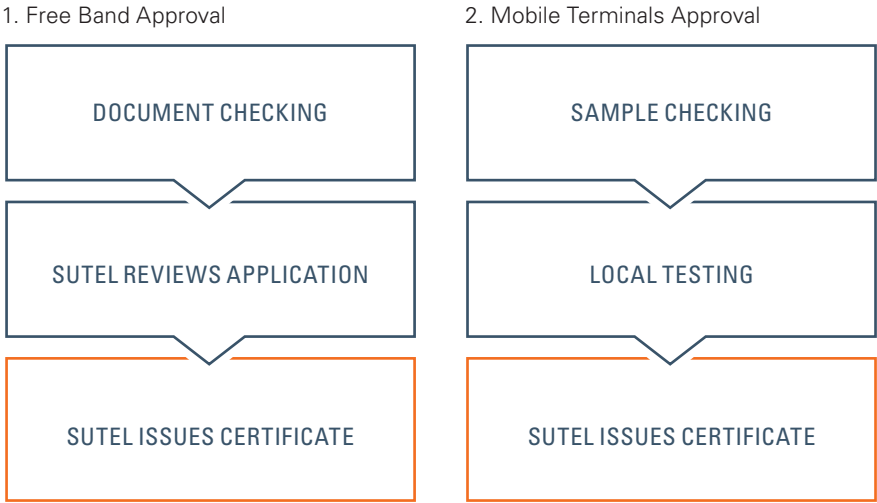
Superintendencia de Telecomunicaciones (SUTEL) in Costa Rica is the authority in charge of the regulation of the telecommunication market and certification for RF products.

There are 2 types of approval depending on the product classification:

- 1. Free Band Approval (Non-cellular)
- 2. Mobile Terminals Approval (Cellular)

Sample testing in Costa Rica will be required for Mobile Terminals Approval.

COSTA RICA'S SUTEL CERTIFICATION PROCESS



Mobile Phone. *Tested.*

PANAMA: ENERGY EFFICIENCY CERTIFICATION

The Ministry of Commerce and Industry (MICI) of Panama has published energy efficiency regulations which establish the labeling requirements for electrical and electronic products to be manufactured, imported, and marketed within the national territory.

The Directorate of Standards and Industrial Technology (DGNTI), operated under the Ministry of Commerce and Industry, is a National Standardization Body responsible for the issuing of the technical standards, regulations, conformity assessment, quality certification, etc.

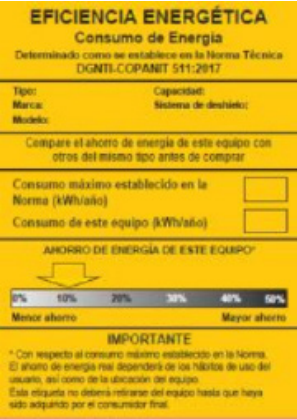
The below product categories are subject to mandatory energy efficiency certification:

- Air conditioners
- Refrigerators and freezers (under control of RTCA regulation since June 2024)
- Motors

According to Panamanian regulations, these products should have a certificate of conformity (CoC).

The CoC is valid for three or five years and annual surveillance (if applied) is needed to maintain its validity.

Energy efficiency labeling is mandatory for controlled products, according to the regulations.



PANAMA'S ENERGY EFFICIENCY CERTIFICATION PROCESS



PANAMA: ASEP CERTIFICATION

The Autoridad Nacional de los Servicios Públicos (ASEP) is the telecommunications regulating agency in Panama.

All telecom and radio communication equipment imported and sold in Panama should first obtain an ASEP certificate.

PANAMA'S ASEP CERTIFICATION PROCESS



PERU: ENERGY EFFICIENCY CERTIFICATION

The Ministry of Energy and Mines of Peru published the energy efficiency regulation Supreme Decree 009-2017-EM on April 7, 2017 to approve the technical regulation on the energy efficiency labeling of energy equipment.

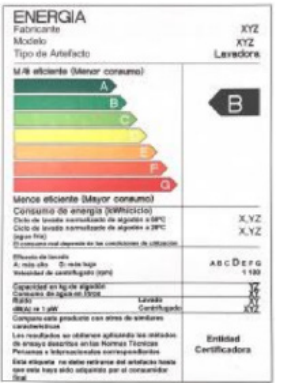
Certificates of Conformity should be issued by product certification bodies accredited by INACAL of Peru or by signatory members of the Multilateral Recognition Agreement of IAF and recognized by MINEM of Peru.

Certificates are valid for three or five years for certification scheme 4 or 5. Annual surveillance should be performed to ensure certificate validity.

The following products are subject to mandatory energy efficiency certification:

- Domestic lighting
- Ballast for fluorescent lamps
- Domestic refrigeration equipment
- Water boilers
- Three-phase electrical motor
- Domestic washing machines
- Clothes dryers
- Air conditioners
- Water heaters

Energy efficiency labeling is mandatory for controlled products, according to the regulations.



PERU'S ENERGY EFFICIENCY CERTIFICATION PROCESS

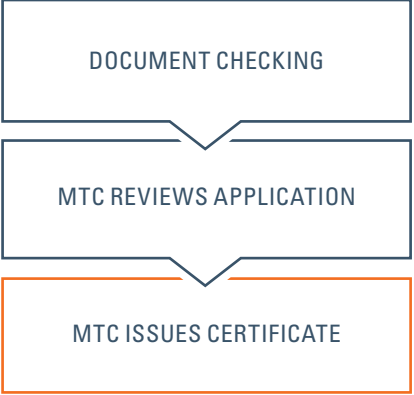


PERU: MTC CERTIFICATION

The Ministerio de Transportes y Comunicaciones (MTC) is the authority responsible for regulating and homologating telecom and radio communications equipment.

Device with an EIRP of less than 10mW are exempted from the MTC Homologation process, but can apply for a voluntary certificate (No Homologation Letter) instead.

PERU'S MTC CERTIFICATION PROCESS



EL SALVADOR: ENERGY EFFICIENCY CERTIFICATION

El Salvador’s Ministry of Economy published energy efficiency regulations for electrical products imported and marketed in the country.

A Certificate of Conformity should be issued according to El Salvador regulations by a product certification body accredited by a signatory member of the MLA (Multilateral Recognition Agreement) of the IAAC (Inter-American Accreditation Cooperation) and recognized by El Salvador’s national accreditation body (OSA).

The certificate is valid for three years.

Annual surveillance should be performed to maintain the certificate’s validity.

The following electrical products are subject to mandatory energy efficiency certification:

- Air conditioners
- Household/Commercial Refrigerators and freezers (Household type under control of RTCA regulation since December 2023)
- Motors

Energy efficiency labeling is mandatory for controlled products according to regulation.



EL SALVADOR’S ENERGY EFFICIENCY CERTIFICATION



EL SALVADOR: SIGET CERTIFICATION

SIGET is short for Superintendencia General De Electricidad Y Telecomunicaciones, which is the government authority for the control of wireless devices and telecommunications terminal equipment in the El Salvador market.

EL SALVADOR’S SIGET CERTIFICATION PROCESS



USA / CANADA: SGS NORTH AMERICA CERTIFICATION

SGS North America Inc. is recognized by OSHA as a Nationally Recognized Testing Laboratory (NRTL). It has also been accredited by the Standards Council of Canada (SCC) and is an accredited ISO 17065 certification body. A product labeled with the SGS Q mark indicates compliance with the applicable requirements for safety.

Given that each NRTL has met the same requirements for recognition, OSHA considers NRTLs recognized for the same product safety test standard to be equivalent in their capacity to certify to a standard.

SGS NA LISTED MARK



An initial inspection is required before certification. Surveillance inspections are required minimum twice a year to maintain the validity of a certificate.

The validity is maintained by a factory inspection.

SGS NA LISTED MARK PROCESS



USA: FCC CERTIFICATION AND SDOC

The Federal Communications Commission (FCC) regulates interstate and international communications by radio, television, wire satellite and cable in all 50 states, the District of Columbia and United States (US) territories. An independent US government agency overseen by Congress, the commission is the US’s primary authority for communications law, regulation and technological innovation.

The rules governing the service may require such equipment to be verified by the manufacturer, the importer, or SGS, be authorized under an SDoC, or receive an equipment authorization from the Commission by one of the following:

- FCC Certification
- FCC Supplier’s Declaration of Conformity (SDoC)

The regulations cover any intentional, unintentional, or incidental radiator whose operating frequency is within the band of 9kHz-3000GHz.

FCC SUPPLIER’S DECLARATION OF CONFORMITY (SDOC)

To simplify the equipment authorization requirements and reduce confusion as to which process may apply to any given device, FCC issued a final rule via FR 2017-23217 (82 FR 50820) to replace two equipment authorization procedures (Declaration of Conformity – DoC and verification) with a single process – Supplier’s Declaration of Conformity (SDoC), effective from November 2, 2017 (Transition Period ended on November 2, 2018.) After November 2, 2018, an SDoC is required for all equipment put on the US Market.

FCC SDOC AUTHORIZATION PROCEDURES

Under parts 15 and 18 of its rules, a responsible party can choose to use the certification process in lieu of SDoC for the approval of certain unintentional radiators.

The Commission not only adopted the SDoC procedure but also amended parts 2, 15, and 18 of its rules, especially on labeling, to update and improve its equipment authorization program. Under new regulations, the below need to be complied with when employing the SDoC procedure:

- A responsible party in the US is required. Otherwise, may apply FCC Certification to meet FCC authorization requirements as an alternative approach to access the US market
- The responsible party could be the manufacturer, importer, assembler or retailer, or other entity, as applicable
- Devices subject to authorization under SDoC may be labeled with FCC logo on a voluntary basis
- A SDoC Compliance Information Statement is required
- New labeling requirements shall be complied with



FCC VERIFICATION, DECLARATION AND CERTIFICATION MARKING PROCESS

1.FCC certification marking process



2. FCC SDoC Process



USA: CALIFORNIA ENERGY COMMISSION (CEC)

The CEC is the principal energy policy and planning agency in California. The Appliance Efficiency Regulations enacted by the CEC are codified in California Code of Regulation Title 20, section 1601-1608. It is the only mandatory energy conservation law in the United States affecting non-governmental consumption.

The regulation applies to the following types of new appliances sold or offered for sale in California. It does not apply to those sold wholesale in California for final retail sale outside the state, and those designed and sold exclusively for use in recreational vehicles or other mobile equipment.

The Building Energy Efficiency Standards, CEC Title 24, Part 6, contains energy and water efficiency requirements, and indoor air quality requirements, for newly constructed buildings and additions or alterations to existing buildings. A Californian building’s design, construction, materials, etc. must comply with these standards.

USA: DEPARTMENT OF ENERGY (DOE)

The DOE is the principal energy policy making and energy efficiency management department in the United States. The DOE is responsible for establishing mandatory energy efficiency standards (MEPS) and testing procedures for energy-using products. The regulations were compiled into the federal regulations Code of Federal Regulation (CFR) after they were issued, with the efficiency of energy-using products listed in chapters 429-431.

The latest requirements for external power adapters and battery chargers were respectively implemented on February 10, 2016 and June 13, 2016. ‘Battery chargers’ includes chargers embedded in other consumer products, wireless battery chargers designed to operate in wet conditions, USB-charged devices and other DC powered device USBs, such as cell phones, digital cameras, consumer IT products, audio/ video products, toys, power tools, rechargeable toothbrushes, water jets, etc.

SGS SERVICES

SGS’s electronic and electrical laboratory is accredited by the CEC and can provide CEC testing services for the following products:

- Compact audio products
- Computers and computer monitors
- Television and signage displays
- DVD players/recorders
- External power supply
- Household refrigerators/wine coolers
- Ballast
- Lamps
- Lighting controls
- Torchieres
- Ceiling fan light kits
- Light engines
- Inseparable luminaires
- Portable luminaires
- Under-cabinet luminaires
- Battery chargers and battery charger systems



BC mark for battery charger systems only.

SGS SERVICES

SGS’s electronic and electrical laboratory is accredited by the DOE and can provide DOE testing services for the following products:

- External power supplies
- Battery chargers
- Refrigerators and freezers
- Ceiling fans
- Room air conditioners
- Microwave ovens
- Water heaters
- Dehumidifiers
- Ceiling fan light kits
- Compact fluorescent lamps
- Fluorescent lamp ballasts
- General service fluorescent lamps
- General service incandescent lamps
- General service lamps
- Incandescent reflector lamps
- Light emitting diode lamps
- Torchieres

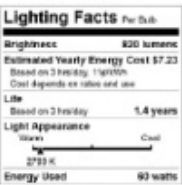
CEC CERTIFICATION PROCESS



Energy Guide



Lighting Facts



DOE CERTIFICATION PROCESS



CHINA: CCC CERTIFICATION

CCC, also called 3C, is an acronym for “China Compulsory Certification”. It came into force on May 1, 2002.

The main feature of CCC is a unified catalog published by the Chinese government, using national standards, technical regulations and implementation procedures, formulating unified marking and including fee standards.

CCC is a mandatory verification that is enforced by the Chinese government. It is the country’s statutory compulsory safety certification system and the basic

approach to safeguarding consumer rights and interests, as well as protecting personal and property safety. This approach is widely adopted by international organizations.

The products subject to CCC are divided into 17 categories covering electrical wires and cords, small power motors, household appliances, motor vehicles, audio and video apparatus, information technology equipment, telecommunication terminal equipment, motorcycles, safety glasses, lighting apparatus and more.

CCC MARKING

The following information on the label must be in Chinese, clearly and indelibly:

- Product name, model number
- Product specification: voltage, input/ output current and so on
- Manufacturer’s name or registered trademark
- CCC mark
- Place of origin

The CCC Mark should be shown on the label.

CHINA’S CCC CERTIFICATION MARKING PROCESS



CHINA: SRRC CERTIFICATION

According to “Regulations on Importing Radio Transmitting Equipment” and “Regulations on Production of Radio Transmitting Equipment”, radio transmitting equipment imported to China or produced (including preproduction) in the country, must be approved by the State Radio Regulation Committee (SRRC) and granted a “Radio Transmission Equipment Type Approval Certificate”.

SRRC ensures that the various types of radio equipment conform with the technical requirements before entering the Chinese market and being used in China.

This effectively reduces radio interference, as well as guaranteeing rational and efficient utilization of spectrum resources.

SRRC certification is mandatory for radio communication equipment. The following information must be printed legibly, clearly visible and indelibly on each product label:

- Applicant name or registered trademark
- Model number
- CMIIT ID

The trademark must be registered in China. Due to customs regulations, it is also advisable to state the country of origin. The above information is optional for the manual and the packaging.

The applicant can be Chinese or an international applicant.

Since December 2016, Short Range Devices (SRD) with low power consumption are exempted from SRRC approval.

CHINA’S SRRC CERTIFICATION MARKING PROCESS



CHINA TAIWAN:
BSMI CERTIFICATION

Enacted in 1932, China Taiwan’s
Commodity Inspection Act is adopted
and promulgated in full by the
National Government.

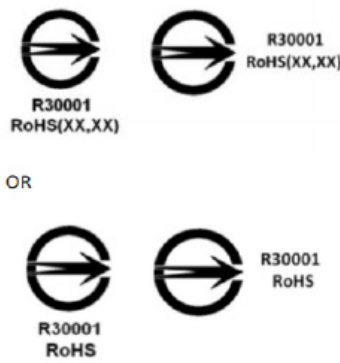
The competent authority as referred
to in this Act shall be the Ministry of
Economic Affairs.

The Ministry of Economic Affairs
shall set up the Bureau of Standards,
Metrology and Inspection (hereinafter
referred to as the BSMI) to take charge
of the commodity inspection operations.

BSMI’s scope covers the development
of national standards, the verification of
weights and measuring instruments,
the inspection of commodities,

and the provision of related testing
and certification services. In order to
enhance industrial competitiveness,
maintain fair trade and protect
consumers, as well as ensure economic
development, BSMI has been dedicated
to promoting standardization, metrology
and inspection systems in line with
international practices.

There are four applications – TABI, RPC,
Monitoring Inspection and DoC – for
the inspection of commodities and
provisions. Both EMC and safety tests
are mandatory for acquiring a BSMI
certificate. It is then legal to offer a
product onto the market.



*T = Type Approval, R = RPC, M =
Monitoring Inspection, D=DoC

- 1. Rating: AC 220/110V, 60Hz
- 2. Plug requirement:
Type A, Type B, CNS690

CHINA TAIWAN BSMI CERTIFICATION MARKING PROCESS



CHINA: THE NATIONAL
COMMUNICATIONS
COMMISSION (NCC)

The NCC is an independent statutory
agency of Executive Yuan responsible
for regulating the development of
the communications and information
industry, promoting competition,
consumer protection, licensing, radio
frequency, spectrum, broadcasting,
content regulation, communications
standards and specifications in Taiwan.

It’s the mandatory type
approval for Low Power Equipment
and Telecommunications
Terminal Equipment.

Application type:

- LPE: Low Power Equipment
- TTE: Telecommunications Terminal

Regarding the Bluetooth devices listed,
manufacturers can also apply for an
NCC SDoC instead of NCC LPE type
approval certificate:

- Bluetooth mouse
- Bluetooth keyboard
- Bluetooth earphone
(excluding TWS earphone)
- Bluetooth selfie stick
- Bluetooth stylus
- Bluetooth speaker powered by
DC supply

Note: the above devices cannot have
composite function.

NCC MARKING

The NCC logo and ID should be affixed
to the product and packaging. It should
be in a single color, clear and easy
to identify.



TAIWAN NCC CERTIFICATION MARKING PROCESS



KOREA:
KC CERTIFICATION (SAFETY)

Korea Safety Certification Scheme is a
mandatory certification scheme under
the Electrical Appliances Safety Control
Act which is administered by the Korea
Agency for Technology and Standard
(KATS) in force since January 1, 2009.
The purpose of the certification system
is to protect consumers from the
various hazardous aspects of electrical
appliances, for example electric shock,
fire, mechanical and radiation hazards,
as well as thermal and chemical hazards.

It classifies electrical appliance safety
management systems into three
categories, Safety Certification, Safety
Confirmation and Supplier Declaration of
Conformity (SDOC), based on
the level of risk/hazard posed by
the appliance.

Electrical products specified in
the Safety Certification and Safety
Confirmation categories must
undergo product testing in a Korean lab,
SGS has signed a MOU (Memorandum

of Understanding) with KTC/KTL/KTR,
and we can apply the certificate as a CB.
To obtain safety certification, a factory
is subjected to an Initial Factory
Inspection before the certificate is
issued. Routine Factory Inspections
shall be conducted every two years
thereafter to maintain certification.

The Supplier Declaration of Conformity
(SDOC) in certification management
systems, can be tested in any SGS
local laboratory and the importers are
required to submit the document to the
relevant association.

MARKING

The KC logo and the KC certification
number must be printed on the product.

LICENSE HOLDER

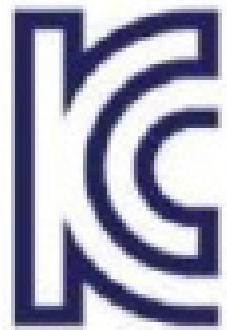
Applicants must be actual factory or
Korea Importer.

CERTIFICATE VALIDITY

Unlimited

TECHNICAL RATINGS:

- Technical Ratings: 110 V / 220 V/
380V, 60HZ
- Plug standard: KSC8305 or any one
of IEC60083 A1-15, A5-15, C2b, C4,
C1b, C3b, C6



KOREA'S KC CERTIFICATION MARKING PROCESS (SAFETY)



KOREA:
KC CERTIFICATION (RF + EMC)

KC (RF+EMC), formerly called KCC,
is a mandatory type approval scheme
for information communication
and telecoms equipment. It is
implemented based on Article 33 of the
“Telecommunications Basic Act” and
Articles 46 and 57 of the “Radio Waves
Act”. Equipment specified in Article
3 of the “Regulation for Certification
of information and Communication
Equipment” should be certified and
affixed with the required label in order to
ensure its manufacturing, import or sale.

The RRA (National Radio Research
Agency) is the KC certification body for
EMC/RF/Telecom equipment.

In July 2019, the RRA announced
that some products, such as RFID
equipment or BT/ 2.4G WIFI devices
without SAR requirement, can choose
KC Certification or KC Registration.

Information should be clearly and
indelibly visible, in Korean, on a
product’s label:

- Applicant name
- Product and model name
- Date of manufacture
- Manufacturer and country of origin
- KC Logo and certificate number

E-labeling is accepted for products with
an integrated display monitor and should
meet relevant requirements. The user
manual should be in Korean and should
include all necessary statements.

KOREA'S KC CERTIFICATION MARKING PROCESS (RF + EMC)



KOREA: KC CERTIFICATION (ENERGY EFFICIENCY)

The Energy Consumption Efficiency Rating System is a mandatory reporting system to make it easier for consumers to purchase energy-saving products with high efficiency, and for manufacturers (importers) to produce and sell energy-saving products from the production (import) stage.

Under this system, the efficiency level is divided into 1 to 5 depending on the energy consumption efficiency or energy usage, and Minimum Energy Performance Standard (MEPS) is applied as the lower limit of energy efficiency. Prohibition of production and sale of products that do not meet Minimum Energy Performance Standard.

Manufacturers and importers of items subject to the Energy Consumption Efficiency Rating System must test their products at an efficiency management testing center in accordance with the published technical standards and measurement methods and report the results within 90 days.

MARKING

The Energy Efficiency Label is a label that is divided into 1 to 5 grades depending on the efficiency of the product to promote the spread of high-efficiency products by improving the identification of energy-saving products. The closer to grade 1, the more energy-saving the product is.

Of the 34 target items, most appliances will be labeled with the following ratings, and the remaining appliances will use separate energy efficiency labels.



KOREA'S KC CERTIFICATION MARKING PROCESS (ENERGY EFFICIENCY)



KOREA: KC CERTIFICATION (E-STANDBY)

E-standby is a system to promotes standby power minimization by taking power-saving mode in standby time. The Standby Power Reduction Program is a mandatory reporting system that aims to expand the sales of low-energy-consumption products, thereby reducing the standby power consumed when electronic products are not in use and promote the development of related technologies.

It is implemented based on “Regulations for Operation of Standby Power Reduction Programs” and Korea Energy Agency is the authority body.

Under the Standby Power Reduction Program, manufacturers and importers of 20 products subject to the warning labeling system must test their products at a standby power testing laboratory according to the published technical standards and report the results within 60 days.

MARKING

The standby power warning label is a mandatory label that is required to alert consumers to products that do not meet the standby power reduction criteria.



The Energy Saving Mark is a voluntary label that can be applied to products that meet the criteria.



KOREA'S KCCERTIFICATION MARKING PROCESS (E-STANDBY)



JAPAN: PSE CERTIFICATION

The Electrical Appliance and Material Safety Law (“Den-an Law” for short, enforced on April1,2001) was established for the purpose of regulating the manufacture, sales, etc., and of fostering voluntary activities by private enterprises to ensure the safety of electrical appliances and materials so as to prevent hazards and trouble caused. PSE (Product Safety of Electrical Appliance & Materials) is a compulsory system for electrical and electric products accessing the Japanese market, and an important item of “Den-an Law” in Japan.

At present, 457 items are designated as Electrical Appliances and Materials. The controlled product was classified into 2 categories based on the level of risk/hazard posed by the appliance.

- 116 items are designated as Specified Electrical Appliances and Materials
- 341 items are designated as Non-Specified Electrical Appliances and Materials

MARKING

- For the products are designated Specified Electrical Appliances and Materials, it should marked with PSE diamond mark and Name of the registered conformity assessment body on product.
- For the products are designated Non-Specified Electrical Appliances and Materials, it should marked with PSE Circle mark on product.



JAPAN'S PSE CERTIFICATION MARKING PROCESS



JAPAN: JRL/TBL CERTIFICATION

There are two types of approval: Japan Radio Law (JRL) and Telecommunication Business Law (JTBL). Apply certification(s) per actual equipment specification.

All specified radio equipment falls under one of three main categories:

- Article 38-2-2 (1) i) of Radio Act (License not required)
- Article 38-2-2(1) ii) of Radio Act (Radio stations prescribed in Article27-2(ii), Radio Act)
- Article 38-2-2(1) iii) of Radio Act (Others)

The Terminals, as defined under Article 9 of “Ordinance Concerning Terminal Facilities, etc.” of Japan’s Telecommunications Business Act, include devices such as Wi-Fi-capable digital cameras, tablets, Bluetooth headsets, and car accessories.

The main implementations covered by this approval category are as follows.

- Cellular phones: DS-CDMA/HSPA, MC-CDMA/1xEV-DO, LTE, AXGP, WiMAX, VoLTE, etc.
- Low-power data terminals: Wireless LAN (Wi-Fi), Bluetooth, Zigbee, etc.

LICENSE HOLDER

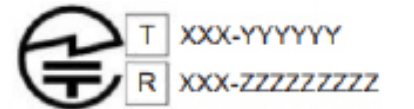
Applicants must be the actual factory which is manufactured the product.

CERTIFICATE VALIDITY

- For the products are designated Specified Electrical Appliances and Materials: 3~7 years (base on product category)
- For the products are designated Non-Specified Electrical Appliances and Materials: Unlimited

TECHNICAL RATING

- Technical ratings: AC 100V/200V, 50Hz/60Hz
- Plug standard: according to JIS 8303



JAPAN'S JRL/TBL CERTIFICATION MARKING PROCESS



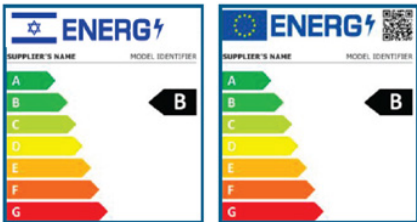
ISRAEL: SII TYPE APPROVAL CERTIFICATION

The Standards Institution of Israel(SII) is the certification body in Israel. SII is responsible for preparation and publication of Israeli standards according to Standardization Law which published in 1953.

All products fall into mandatory scope must obtain SII approval before exporting to the Israeli market. Meanwhile, products within the scope of energy efficiency certification must mark with energy efficiency labels.

SII Type Approval Certificate and Energy Efficiency Label Example

MARKING LABEL REQUIREMENTS



1. The Marking label language should be in Hebrew.

2. The Marking label should include below information:

- Product name
- Manufacture name
- Model name
- Rating
- Manufacture year
- Country of manufacture
- Importer name
- Importer address

LICENSE HOLDER

Applicant could be foreign companies or Israel importers.

CERTIFICATE VALIDITY

No validity if testing standard does not upgrade and product not updated.

TECHNICAL PARAMETER

230V, 50Hz

Plug should meet SI 32 requirement

ISRAEL'S SII TYPE APPROVAL PROCESS



ISRAEL: MOC CERTIFICATION

The Ministry of Communications (MoC) encompasses a wide and diversified range of activities, including formulating telecommunications regulation and policy, developing telecommunications infrastructures, supervising Bezeq and other telecommunications service providers, supervising the Postal Authority, setting and auditing postal and communications tariffs, managing the electromagnetic spectrum, regulating and supervising cable television services and tariffs, and approving usage of telecommunications equipment in Israel.

MOC type-approved/acceptance is mandatory for wireless and telecommunication device.

For this certification, HS Code and Real importer information are required. The certification is valid for two years.

MOC released a new list of products which are exempted from type approval in order to encourage competition in the market of wireless products, including products operating within the frequency band 2400 to 2483.5 MHz in Bluetooth technology or in ANT / ANT + technology (which includes a built-in antenna and power of below 100 mW EIRP), Tablets (without cellular functions) and Desktop computers (without cellular functions) and etc.

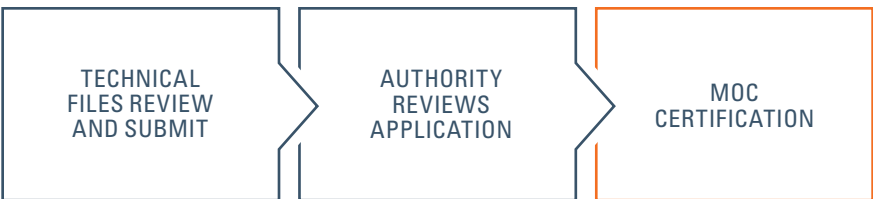
MARKING

The language of label and user manual must be Hebrew.

All approved models should print the label on the packaging (or importer identification number). Character size is not required, but should be readable. Texts of label include approval number and MOC warning statement.

1. מספר זהו היבואן: XXXXXXXXXX
2. חל איסור לבצע פעולות במכשיר שיש בהן כדי לשנות את תכונותיו האלוטיות של המכשיר, ובכלל זה שינויי תוכנה, החלפת אנטנה מקורית או הוספת אפשרות לחיבור לאנטנה חיצונית, בלא קבלת אישור משרד התקשורת. בעל החושש להפרעת אלוטיות

ISRAEL'S MOC TYPE APPROVAL PROCESS



PHILIPPINES: PS LICENSE/ ICC CERTIFICATION

BPS implements two Mandatory Product Certification Schemes: the Philippine Standard (PS) Quality and/ or Safety Certification Mark Licensing Scheme and the Import Commodity Clearance (ICC) Certification Scheme. The DTI-BPS Certification Scheme aims to protect the consumers from substandard and uncertified import shipments.

The scheme is an assurance that these products are consistently in accordance with the national standards (PNS).

Products covered by the mandatory certification, whether locally manufactured or imported, are not allowed to be distributed in the Philippine market without the necessary PS or ICC marks.

Manufacturers must align their systems to ISO 9001 for Quality Management Systems (QMS) to apply for a PS license/ ICC certification.

PS LICENSE/ICC MARKING

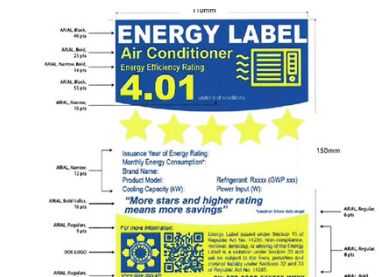
The licensee must affix the PS/ICC marking (and energy efficiency labeling, if applied) on the product covered by the certificate.

A specified license number shall be placed below the logo including the batch/serial number of the product. If marking or sticking of the mark on the product is not possible, the mark must appear on the product packaging.

PS LICENSE MARK



ENERGY LABELING



PHILIPPINES' PS LICENSE/ICC CERTIFICATION MARKING PROCESS

1. PS Mark Certification



2. ICC Certification



LICENSE HOLDER

Applicant must be Philippines importer or company which registered in Philippines.

CERTIFICATE VALIDITY

3 years.

ICC MARK



PHILIPPINES:
NTC CERTIFICATION

The National Telecommunications Commission (NTC) is a government agency created in 1979, conferred with regulatory and quasi-judicial functions by the Board of Communications and the Telecommunications Control Bureau. The aim is to provide an environment that ensures reliable, affordable and viable infrastructure and services in information and communications technology (ICT) that is accessible to all.

Only commercial type-approved/ accepted equipment approved by the NTC can be used in the Philippines. Certification is mandatory for all wireless and radio equipment, and telecommunication equipment.



The NTC label (NTC logo and certificate number) should be put on the product/ device. If it is not possible to be put on the device because of size limitations, then it can be put on the box or package and the user manual.

PHILIPPINES' NTC CERTIFICATION MARKING PROCESS



MALAYSIA:
ST COA CERTIFICATION

The Malaysia Electricity Supply Act 1990, Electricity Regulations 1994 and sub regulation 97(1) require prescribed electrical equipment to comply with its specified safety and energy efficiency requirements. Any products on the prescribed list must apply for Certification of Approval prior to its manufacture, import, display, sale or advertising activities, and must be marked or labeled.

The Energy Commission (ST) (formerly known as the Department of Electricity and Gas, Malaysia) is the Regulatory agency which issues the Certificate of Approval (COA).

1. Imported regulated electrical equipment shall undergo a Consignment Test conducted by a governmental laboratory SIRIM (Standard and Industrial Research Institute of Malaysia) within the validity of the COA or participate in a SIRIM Product Certification Scheme (PCS). Electrical equipment which passes the Consignment Test shall be affixed with the labels issued by SIRIM

2. Manufactured regulated equipment shall participate in a SIRIM Product Certification Scheme (PCS) and electrical equipment shall be affixed with the label issued by SIRIM or display its SIRIM Certification Mark (under the Label Licensing Program). A COA is required for products entering into the PCS scheme

MARKING

SIRIM-ST label (Batch): Importers whose product has passed the Consignment Test shall purchase SIRIM-ST labels and affix to each piece of equipment. The word BATCH printed on the label shows that the imported equipment has gone through the BATCH Consignment Test. A sample of the label is shown below:



SIRIM-ST label: Local manufacturers and importers who have entered the PCS scheme shall purchase SIRIM-ST labels and affix to each piece of equipment. A sample of the label is shown below:



LICENSE HOLDER

The COA holder must be a company registered on the Malaysia ST official website.

CERTIFICATE VALIDITY

ST COA is valid for one year.

TECHNICAL PARAMETERS

230V, 50Hz for Single-phase,

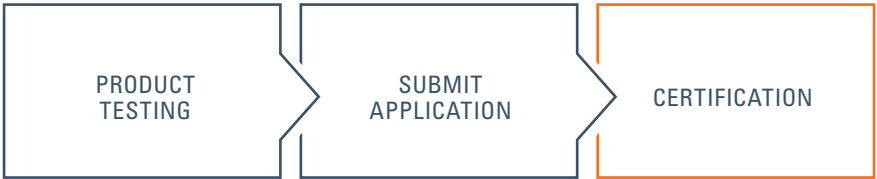
400V, 50Hz for Three-phase,

Plug: Type A, C, G, M

MEPS Label: all manufacturers and importers of controlled products (e.g. televisions, refrigerators, domestic fans, air conditioners, microwave ovens, lamps, rice cookers, washing machines, freezers, and oven) must affix the label to the appliance before it is offered to the market.



MALAYSIA'S ST COA MARKING PROCESS



MALAYSIA:
SIRIM CERTIFICATION

The Malaysian Communications and Multimedia Commission (SKMM/ MCMC), established pursuant to the provisions of the Malaysian Communications and Multimedia Commission Act 1998 (MCMCA), is entrusted with the role of promoting and regulating the communications and multimedia industry and to enforce the country's communication and multimedia laws.

SIRIM CERTIFICATION PRODUCT SCOPE

1. All radio communications products capable of being used for telecommunication in frequency bands lower than 3000 GHz, or their motherboards and apparatus, or equipment to be attached or connected to Public Network or System
2. Customer Premise Equipment (CPE)
3. Network facilities
4. Automotive sector

LICENSE HOLDER

License holder shall be Malaysian company and registered in E-comm website.

CERTIFICATE VALIDITY

5 years.



MALAYSIA'S SIRIM MARKING PROCESS



SINGAPORE: SAFETY CERTIFICATION

The Consumer Protection (Safety Requirements) Regulations (CPSR) requires 33 types of household product, also known as Controlled Goods, to be registered with Enterprise Singapore. These products need to be tested to specified safety standards and affixed with the SAFETY Mark before they can be sold in Singapore. The controlled products are divided into three categories: Low Risk, Medium Risk and High Risk, which are required to comply relevant conformity assessment process.

The SAFETY Mark helps consumers and traders to identify registered controlled goods.

The SAFETY Mark comprises a “safety logo” enclosed in a square on the left and the words “SAFETY MARK” within a rectangle on the right. Below these is a unique 8-digit registration number traceable to the registrant and the registered models.

MARKING

All controlled goods should be marked with the SAFETY Mark either on the product or packaging. After Certification is complete, the Applicant can print the marking based on the Authority instruction.



LICENSE HOLDER

Applicants must be a Singapore Company which has been registered with the Authority.

CERTIFICATE VALIDITY

COC is valid for three years.

TECHNICAL PARAMETER

230V, 50 Hz
Plug: EN50075, SS145/SS 472

SINGAPORE’S SAFETY MARK PROCESS



SINGAPORE: ENERGY EFFICIENCY CERTIFICATION

The National Environment Agency (NEA), as the Energy Efficiency Labeling Authority, manages the Energy Labeling Scheme. To help consumers better identify more energy efficient models and spur suppliers to offer more efficient products, mandatory energy labelling was introduced for air-conditioners, refrigerators, clothes dryers, televisions, induction motors and lamps. Under the Energy Conservation Act (Cap. 92C), all registrable goods must carry energy labels.

Any importer and manufacturer who intends, in the course of any trade or business, to supply any registrable goods in Singapore on or after the effective date must apply to the NEA for registration as a registered supplier. They must also register any registrable goods they intend to supply in Singapore.

LICENSE HOLDER:

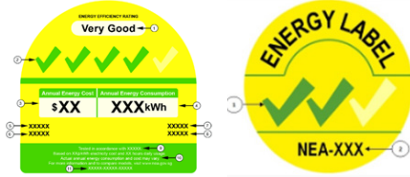
The Applicant and License holder must be a local Singaporean company, which is registered on the NEA website.

CERTIFICATE VALIDITY:

A registered model’s Certificate of Registration (COR) is valid for three years.

MARKING

No certification marks. Only the energy label is available, as below:



SINGAPORE: IMDA CERTIFICATION

The Infocomm Media Development Authority of Singapore (IMDA), a statutory board of the Singapore Government, was formed on December 1, 1999, when the government merged the National Computer Board (NCB) and the Telecommunication Authority of Singapore (TAS). IMDA aims to grow Singapore into a dynamic global infocomm hub and to leverage infocomm for Singapore’s economic and social development.

As the Chief Information Officer for the Singapore Government, IMDA is responsible for master-planning, project managing and implementing various infocomm systems and capabilities for the Government. It oversees IT standards, policies, guidelines and procedures for the Government, and manages the infocomm security of critical infocomm infrastructure.

IMDA PRODUCT SCOPE

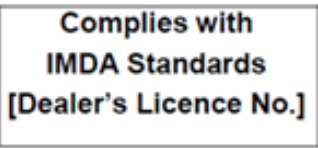
1. Equipment Registration for complex multi-line equipment or SRD/LPD ESER Scheme – For suppliers who wish to register complex multi-line equipment or the Short Range/ Low Power Devices (SRD/LPD), DECT cordless telephone, portable mobile radio and multi-channel portable radio at less than 500mW. DVB-T2 Integrated Receiver Decoder. Complex multi-line equipment
2. Equipment Registration for SelfDeclaration SER Scheme – For suppliers who wish to register mobile terminals, e.g. 3G/LTE/GMPCS mobile phone, broadband access equipment e.g. ADSL, cable modem and CCHN equipment
3. Telecommunication Equipment Registration/Application for Confirmation of Conformity GER

Scheme – For suppliers who wish to register of mobile/IoT base station/ repeater systems, land mobile Radio/walkie-talkie, TV white Space devices, UWB, DSRC, vIoT user equipment and short range devices where the operation requires IMDA approval

IMDA CERTIFICATION MARK

A licensee shall affix the following compliance label on all registered equipment, or on the equipment’s instruction manual or packaging, before such equipment is displayed or offered for sale:

The label size should be 17*9mm:



SINGAPORE’S IMDA MARK PROCESS



THAILAND: TISI CERTIFICATION

On January 1, 1969, the Thai Industrial Standards Institute (TISI) was established in the Ministry of Industry, as the national standards body in Thailand. Manufacturers, importers, retailers and traders involved in advertising and/or supplying controlled goods in Thailand must ensure that their products are certified by TISI. All controlled goods certified by TISI must bear a Safety Mark before they can be supplied to the Thailand market.

TISI has two product certification schemes each with a different certification mark. They are the voluntary certification mark and mandatory certification mark. Voluntary certification can be applied for local manufactured products.

TISI PRODUCT CERTIFICATION SCHEMES

- Standard Mark (Mandatory): This mark is displayed on products, local or imported, that are required by Royal Decree to be in conformity with a mandatory standard. Hence, the manufacture and import of such products must be licensed
- Standard Mark (Voluntary): The presence of this mark on any product indicates that the product is in conformity with a TISI standard, that its quality and reliability are assured, and only local manufacturers can apply for voluntary certification



Ratings: AC 220V/50Hz

Plug: Shall meet the requirement of standard TIS166-2549. Local testing in Thailand is required. Local company is required as license holder.



CERTIFICATE VALIDITY

Certificate will be valid until regulations or standards are updated.

THAILAND'S TISI MARKING PROCESS



THAILAND: NBTC CERTIFICATION

The National Broadcasting and Telecommunications Commission (NBTC) was established as a single converged regulator for telecoms and broadcasting sectors in Thailand according to the NRA Organization Act of 2010.

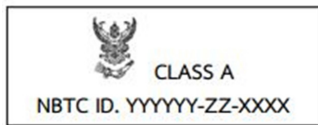
NBTC PRODUCT SCOPE

Mandatory for all telecom and radio communication equipment, except for wireless charger and inductive loop system device. There are three types of NBTC certification program:

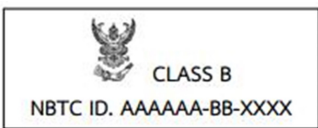
- Class A approval: RF/Telecom equipment shall test with NBTC accredited testing laboratory and submit documentation to register with NBTC for control
- Class B approval: The requirements and application procedure are the same as Class A approval. The only difference is that Class B can submit documents, like CB, CE, FCC certification and test reports released by a lab accredited with ISO / IEC 17025 without testing.
- Supplier's Declaration of Conformity (SDoC): for products under this type, applicants shall have a local representative, make a self declaration and submit the TCF (Technical File) documents to NBTC to get permission

NBTC CERTIFICATION MARKS

CLASS A



CLASS B



SDOC: N/A

THAILAND'S NBTC MARKING PROCESS



VIETNAM: CR MARK

Vietnam regulation conformity mark Certification (CR Mark) is a safety/EMC certification for products controlled by the Directorate for Standards, Metrology and Quality (STAMEQ).

The national technical regulation QCVN 4:2009/BKHCN with its amendment 1:2016 stated that all products in the mandatory list must endure the product testing and factory inspection (method 5) or per-lot product

testing (method 7) to obtain the CR Mark Safety Certification before it placing on the Vietnam market.

The national technical regulation QCVN 9:2012/BKHCN with its amendment 1:2018 stated that all products in the mandatory list must endure product testing to obtain the CR Mark EMC Certification before it placing on the Vietnam mark.

MARKING

testing to obtain the CR Mark EMC Certification before it placing on the Vietnam mark.



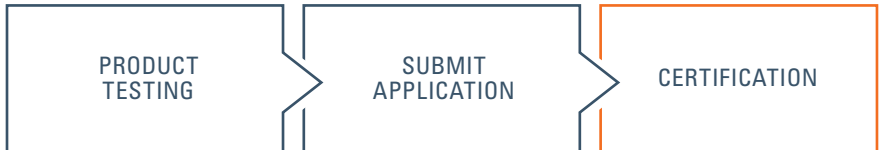
LICENSE HOLDER

Applicant must be Vietnam company.

VIETNAM'S CR MARKING PROCESS (SAFETY METHOD 5)



VIETNAM'S CR MARKING PROCESS (EMC)



VIETNAM: VNEEP

Vietnam Energy Efficiency Certification is a mandatory certification controlled by The Ministry of Industry and Trade (MOIT), which aims to institute measures for improving energy efficiency and conservation in all sectors of the Vietnamese economy, and reduce Vietnam's energy intensity and greenhouse gas emissions and improve Vietnam's energy security.

The Ministry of Industry and Trade is the Government Agency who in charge of activities related to the energy sector and other industries, in accordance with Decree 189/2007/ND-CP issued by the Prime Minister on 27 December 2007.

On Sep.12 2011, the Vietnam Government issued Decision 51/2011/QĐ-TTg requiring producers and importers to attach energy-saving labels in household and industrial equipment starting from January 1, 2013. Control goods: LED lights, Air conditioners, Refrigerators, Clothes washing machines, Electric rice cookers, Electric fans, Televisions, Water heater with storage tank, Infrared hobs, Induction hobs, Television sets, Photocopiers, Computer monitors, Printers, Laptop PC and 2-in 1 laptop, notebook, etc.

MARKING

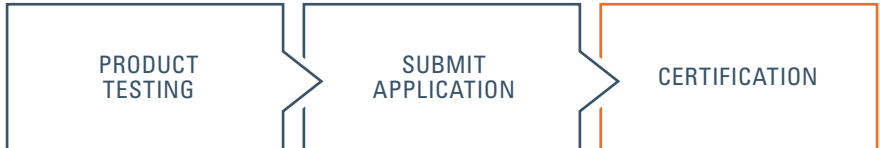
testing to obtain the CR Mark EMC Certification before it placing on the Vietnam mark.



LICENSE HOLDER

Applicant must be Vietnam company.

VIETNAM'S VNEEP MARKING PROCESS



VIETNAM: MIC (RF) CERTIFICATION

The Ministry of Information and Communications of the Socialist Republic of Vietnam (MIC) is the policy making and regulatory body in the fields of press, publishing, posts, telecommunications and Internet, transmission, radio frequency, information technology, electronics, broadcasting and national information infrastructure, and management of related public services on behalf of the government.

MIC (RF) PRODUCT SCOPE

Mandatory for all telecommunications terminal and radio communications equipment, except for radio equipment operating in the 2.4GHz and/ or 5GHz band with EIRP power of less than 60mW (exempted).

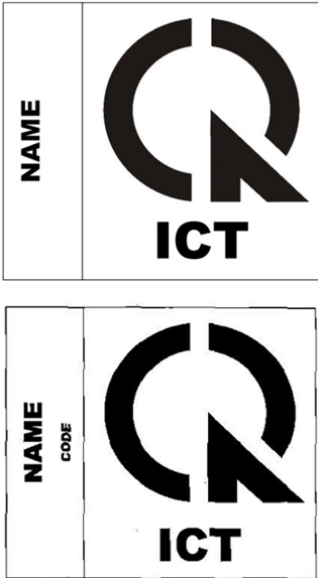
Type approval scheme:

- 1. MIC type approval
- 2. MIC exemption letter (suspend issuing since 2023)
- 3. EMC for self-assessment DoC (SDoC)

MIC (RF) CERTIFICATION MARKING

There're two kinds of ICT marks, one for radio devices and one for ITE devices, refer to below photos for detail:

- 1. ICT mark for Radio devices: with "CODE";
- 1. ICT mark for ITE devices: without "CODE".



VIETNAM'S MIC (RF) MARK PROCESS



SAUDI ARABIA: SASO EER REGISTRATION

Royal Decree No M/10 dated 03/03/1392 H (17/4/1972 G) established the Saudi Standards, Metrology and Quality Organization (SASO) as a judicial body. A board of directors, headed by H.E. the Minister of Commerce, and consisting of representatives of the major sectors affected, outline the general policy of SASO regarding standardization in the Kingdom. Manufacturers and importers of approved appliances must comply with the SASO regulations, and are granted a year from the date of publication of the relevant regulation to comply.

SASO has announced Energy Efficiency Labeling Regulations to estimate the energy efficiency of refrigerators (including the refrigerator and/or freezer function), air conditioners, washing machines, clothes dryer, water heater, dishwasher, as well as electric motors and lighting products. SASO EER certification is valid for one year after issue.

SASO EER MARKING



Air-conditioner Refrigerator and freezer Cloth washing machine

PRODUCT CATEGORY	1.1.1.1 STANDARDS
Refrigerator and freezer	SASO 2892: 2018
Air conditioner	SASO 2663: 2021
Washing machine	SASO 2885: 2018
Electrical motors	SASO 2893: 2018
Lighting products (I, II, III type)	SASO 2870: 2018, SASO 2902: 2018, SASO 2927: 2019
Large air conditioner	SASO 2874: 2016
Clothes dryer	SASO 2883: 2017
Water heater	SASO 2884: 2017
Dishwasher	SASO 3029: 2023

SAUDI ARABIA'S SASO EER REGISTRATION MARKING PROCESS



SAUDI ARABIA: CST CERTIFICATION

The Communications, Space & Technology Commission(CST) is mandated, in accordance with the authority granted to it by its Statutes, to license telecommunications equipment to be used in the Kingdom of Saudi Arabia.

Any party wishing to get equipment approval or planning to import telecommunications and IT equipment into the Kingdom must follow the procedures to get certification. The CST certification scheme applies to telecommunications and IT equipment.

MARKING

There is no special label requirement except for mobile phones and tablet devices, the European CE mark is sufficient.

LICENSE HOLDER

Any company can be the applicant and license holder as long as it has registered on the CST website.

CERTIFICATE VALIDITY

CST certification is valid for two years.

SAUDI ARABIA'S CST CERTIFICATION MARKING PROCESS



GULF COUNTRIES:
GCC CERTIFICATION

GCC is the abbreviation of the Gulf Cooperation Council, which was established in Abu Dhabi, United Arab Emirates, on May 25, 1981. Its members are Saudi Arabia, Kuwait, United Arab Emirates, Qatar, Oman, Bahrain and Yemen.

On June 1, 2015, the GCC began to pilot the certification of market access services. It stipulated that Gulf technical specifications for some low voltage electrical equipment and supplies would be fully enforced from July 1, 2016, the "Gulf Technical Regulation for Low Voltage Electrical and Appliances".

GSO (GCC Standardization Organization) requires that all low voltage electrical equipment and supplies must comply with Gulf compliance identification (G-mark) requirements.

GCC REQUIREMENTS

Safety and EMC:

There are 13 categories of E&E product falling within the scope of GCC, including: household refrigerators, washing machines, and air conditioners, room heaters, food grinders, microwave ovens, etc.

Whether a product is within the scope, can also be judged by its HS code, product specification and user manual.

GCTS Marking



GCC CERTIFICATION MARKING PROCESS



UAE: ECAS & EQM

The Emirates Authority for Standardization and Metrology (ESMA) was established as the sole standardization body in the UAE under Law No. 28/2001. It is mandated as the authorized government agency responsible for the development of National Standards. *In July 2020, ESMA had been merged into the Ministry of Industry and Advanced Technology (MolAT).

Two certification programs have been mandated by ESMA to regulate the safety requirements of E&E products: Emirates Conformity Assessment Scheme (ECAS) and the Emirates Quality Mark (EQM). ECAS is a mandatory program for all regulated products. An ECAS certificate is valid for one year and subject to annual renewal.

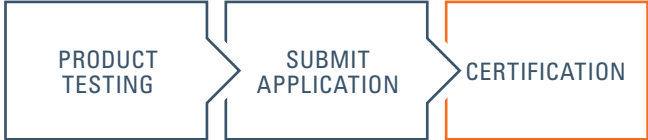
EQM is a mark of conformity granted to products that comply with the relevant UAE National Standards, regional and/or international standards and are manufactured by an organization implementing an effective quality management system to ensure continuous compliance.

An EQM certificate is a voluntary certificate (except for electric storage water heater products) and is valid for three years.

ESMA has authorized SGS to carry out conformity assessment activities for products applying for certification under ECAS & EQM scheme.

UAE'S ECAS CERTIFICATION PROCESS

1. UAE's ECAS Certification Process



2. UAE's EQM Certification Process



ECAS Marking:



EQM Marking



UAE: ECAS EER CERTIFICATION

MolAT has announced Energy Efficiency Standard Labelling Scheme (EESL) to estimate the energy efficiency of room air- conditioners, refrigerators, chillers and freezers, washing machines and clothes dryer and dishwashers, rotodynamic pumps, as well as television and electric motors.

The EESL label of above products should comply according to requirements of MolAT and have unique RFID tag.

*The requirement of energy-efficient for electric motors will be conducted mandatorily on 14 Dec 2024.

ECAC EER REQUIREMENTS:

Safety and EER

ELECTRIC APPLIANCES	TEST STANDARDS
Washing Machine and Clothes Dryer	UAE.S 5010-2: 2019
Refrigerator, Freezer	UAE.S 5010-3: 2013 (*UAE.S 5010-3: 2024 will be conducted mandatorily on 25 Jan 2025)
Heat Storage Type Water Heater	UAE.S 5010-4:2014
Dishwasher	UAE.S 5010-6: 2019
Household Air Conditioner; Commercial Air Conditioner and Central Air Conditioner.	UAE.S 5010-1: 2019 UAE.S 5010-5: 2019
Television	UAE.S 5010-8: 2019
Electric motors	UAE.S 5051: 2023(*14 Dec 2024)

ENERGY EFFICIENCY LABEL



UAE'S ECAS EER CERTIFICATION PROCESS



UAE: TDRA CERTIFICATION

UAE requires radio equipment and telecommunications terminal equipment to comply with relevant technical specifications of TDRA and to be registered with the Telecommunications and Digital Government Regulatory Authority (TDRA) before it can be used, sold or distributed in the UAE market.

TDRA Type Approval is the term for the process of determining and registering the kind of equipment that can be brought and used in UAE without causing interference or long or short term damage to the network.

Any telecommunications apparatus, which connects directly to a public telecommunications network and/or which is an intentional transmitter of radio waves, shall be subject to the TDRA's Type Approval requirements.



TDRA MARKING

The type approval conformity mark must be on the Telecommunications Equipment package box and on display platforms in retail stores and websites.

LICENSE HOLDER

The applicant needs to be registered on UAE TDRA.

CERTIFICATE VALIDITY

Product Type Approval is valid for three years. Dealer registration is valid for five years.

UAE'S TDRA CERTIFICATION MARKING PROCESS



AUSTRALIA:
SGS-EPCS CERTIFICATION

Australia does not have unified safety certification marks. Every state/region publishes its own regulations to control E&E products. The names and publishing dates of the regulations may be different, but the content is almost the same. These regulations divide electronic electrical products into two categories:

- Prescribed Products:
Certificate of Approval
- Non-Prescribed Products:
Certificate of Suitability

The Electrical Safety Regulatory Authorities in each State and Territory administers legislation aimed at preventing the supply and sale of unsafe electrical equipment. Electrical equipment must not be

supplied unless it complies with essential and minimum safety requirements. These requirements are set out in standards which ensure that electrical equipment is constructed in accordance with good engineering practice, with regard to safety to ensure that it does not endanger the safety of person or persons, domestic animals or property, when properly installed, maintained and used in the applications for which it was made.

It is necessary to obtain approval in only one Australian state. This approval is then valid throughout all territories of Australia under Mutual Recognition legislation, and New Zealand through the Trans Tasman Mutual Recognition Agreement.



SGS Australia (SGS Australia Pty Ltd Electrical Product Certification Service) has been authorized by JAS-ANZ as certification body. Therefore, safety certification from SGS is named SGS EPCS. In-scope electrical equipment is low voltage electrical equipment that is rated at:

- Greater than 50 V AC, less than 1000V AC
- Greater than 120V DC, less than 1500V DC

All equipment will be categorized as prescribed products and non-prescribed products. Prescribed products must have an EPCS certificate (certificate of approval). An EPCS certificate (certificate of suitability) is voluntary for non-prescribed products.

SGS-EPCS MARKING

The marking that should be shown on products is as follows:

- Prescribed products: SGS-xxxxxx-EA
- Non-Prescribed Product:
SGSxxxxxx-E

SGS-EPCS certification is valid for five years.

AUSTRALIA'S SGS-EPCS
CERTIFICATION
MARKING PROCESS



AUSTRALIA:
GEMS AND ENERGY LABELS

The energy efficiency and energy consumption certification name in Australia was previously the Minimum Energy Performance Standards – MEPS, and it was replaced by Greenhouse and Energy Minimum Standards – GEMS. GEMS is mandatory and initiated by the Governments of Australia and New Zealand. GEMS Regulator monitors and enforces compliance with energy efficiency requirements for appliances and equipment.

Energy Rating Labels help consumers make informed choices about the energy efficiency of the products they buy. Energy labelling requirements are developed through consultation between governments and stakeholders and with advice from industry and technical experts. Existing requirements are reviewed periodically to ensure they continue to meet their objectives and keep pace with new product developments.

Following are the products that must display an Energy Rating Label:

- Air conditioners
- Clothes dryers
- Clothes washers
- Computer monitors
- Dishwashers
- Household refrigerators and freezers
- Pool pumps
- Televisions

REGISTERING A PRODUCT

Regulated products must be registered before they can be sold. You can register a product in Australia or New Zealand using the Energy Rating Product Registration System. In Australia, there are four steps to register a product model. A product model is defined by its brand, model number, and energy performance characteristics.

MARKING



AUSTRALIAN GEMS AND ENERGY LABELS PROCESS



AUSTRALIA: RCM REGISTRATION

Under new arrangements in Australia, the Regulatory Compliance Mark (RCM) is the de facto compliance mark. Transitional arrangements allow the use of the C-Tick and A-Tick for a specified period. From March 1, 2013, suppliers have been able to use the RCM to indicate a device's compliance with all applicable Australian Communications & Media Authority (ACMA) regulatory arrangements – for telecommunications, radio communications, EMC and EME. The RCM is also used to indicate compliance with applicable state and territory electrical equipment safety requirements. When using the RCM to indicate compliance to ACMA regulatory arrangements, where the device is also subject to state and territory electrical

safety requirements, suppliers should ensure that the device meets applicable state or territory electrical requirements before applying the label. Before using the RCM logo, suppliers must register on the Electrical Regulatory Authorities Council (ERAC) website and complete equipment registration.

ERAC is the premier body for electrical safety regulators in Australia and New Zealand. It acts to ensure electrical safety regulatory systems are contemporary and harmonized wherever possible.

A number of emerging challenges and problems with electrical equipment safety systems across Australia and New Zealand led ERAC to commission an independent consultant to conduct a comprehensive review in 2007.

As a result of the review, a number of recommendations were made to improve and harmonize the electrical equipment safety system (EESS) and these have been implemented by ERAC.

The use of regulatory compliance labels is only one aspect of the broader compliance regime. By imposing requirements at the point of supply, labeling requirements are intended to limit the supply of non-compliant devices to the market.

In-scope electrical equipment is low voltage electrical equipment that is rated at:

- Greater than 50 V AC RMS or 120V ripple-free DC (extra-low voltage)
- Less than 1000V AC RMS or 1500V ripple-free DC (high voltage)

The EESS makes provision for in-scope electrical equipment to be classified into three levels (level 3, level 2 and level 1). There are proportionate requirements for each level, depending upon the potential risk currently identified for the item:

- Level 3 is classified as potentially high-risk equipment; this equipment must finish product registration
- Level 2 is classified as potentially medium risk equipment
- Level 1 is for electrical equipment which is not classified as Level 3 or Level 2

INDIA: COMPULSORY REGISTRATION SCHEME(BIS)

Ministry of Electronics & Information Technology (MeitY) has notified "Electronics and Information Technology Goods (Requirement for Compulsory Registration) Order, 2012" on 3 Oct 2012, and it was came into effect from 2013.

As per the Order, the product which is manufactured or store for sale, import, sell or distribute shall meet the Indian Standard specified in the Order. Manufacturers of these products are required to apply for registration from Bureau of Indian Standards (BIS) after getting their product tested from BIS recognized labs. Bureau of Indian Standards (BIS) then registers the manufacturers under its registration scheme who are permitted to declare that their articles conform to the Indian Standard (s).

INDIA'S COMPULSORY REGISTRATION SCHEME PROCESS

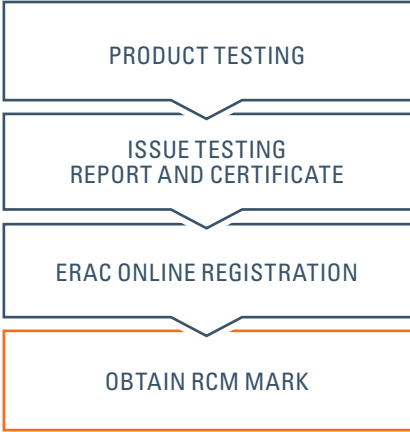


RCM MARKING

The RCM logo shall be placed on the external surface of the equipment



AUSTRALIAN RCM MARKING PROCESS



LICENSE HOLDER

Applicants must be the actual factory which is manufactured the product.

CERTIFICATE VALIDITY

CRS cert is valid for 2 years

TECHNICAL RATING

- Technical ratings: AC230V/400V, 50Hz
- Plug standard: IS 1293:2019

MARKING

All controlled goods should be marked with the Standard Mark either on the product or/and packaging.



INDIA: WPC CERTIFICATION

Wing of the Ministry of Communications (Wireless Planning and Coordination Wing, WPC), created in 1952, is the National Radio Regulatory Authority in India responsible for Frequency Spectrum Management, including licensing and catering for the needs of all wireless users (Government and Private) in the country. It exercises the statutory functions of the Central Government and issues licenses to establish, maintain and operate wireless stations.

Application Type: ETA and ETA through self-declaration (ETA-SD)

WPC PRODUCT SCOPE

All the products having Radio Frequency have to be certified by WPC.

INDIA: TEC CERTIFICATION

According to the Indian Telegraph (Amendment) Rules, 2017, every telecom equipment must undergo Mandatory Testing and Certification of Telecom Equipments (MTCTE) prior to sale and import of use in India. The testing is to be carried out for conformance to Essential Requirements for the equipment, by Indian Accredited Labs designated by TEC and based upon their test reports, certificate shall be issued by Telecommunication Engineering Centre (TEC).

TEC PRODUCT SCOPE

TEC has its own mandatory product list, mainly including TEC Phase I, II, III,

SOUTH AFRICA: LOA

Government Notice R 89 dated February 6, 2009 and published in Government Gazette 31844 introduced compulsory safety standards for E&E apparatus. The right of the public to health, safety and environmental protection is entrenched in South Africa's Constitution. The National Regulator for Compulsory Specifications (NRCS) protects these rights by administering and enforcing these compulsory specifications.

All E&E devices that connect to the 230V power grid must comply with the following:

ETA through self-declaration is applicable to the products as follow:

Exempted from import licensing requirement as per Import Policy of DGFT and working in de- licensed frequency band(s), as per applicable Gazette Notifications from Ministry of Communications.

For example: - Mobile handsets, Smartphones, Electronic notepads, Laptops, Smart watches, SRDs including accessories, microphones, headphones, speakers, earphones, printers, scanners, mouse, keyboard, camera, etc.

Wireless products which fall under the restricted category of DGFT Exim policy (e.g. Drones, Radars, TV, Outdoor PTP/ PMP Radios etc.) need ETA application.

IV products so far, such as base station for cellular network, repeater for cellular network, mobile radio trunking system etc.

TEC CERTIFICATION MARKING

The 'TEC certification e-label / physical label consists of TEC Logo along with MTCTE followed by the Certificate Number as given in the below figure:



- License holder should be a South African local importer
- The report must be issued according to SANS standards or IEC standards with national deviation.
- Certification is valid for three years
- No factory inspections are required, except for compact fluorescent lamp (CFL) products

Compliant products will be granted a Letter of Authority (LOA) and qualify for access to the South African market.

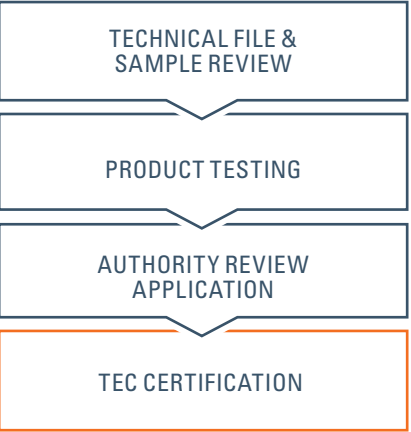
WPC CERTIFICATION MARKING

No special requirement, follow CE.

INDIA'S WPC MARKING PROCESS



INDIA'S TEC MARKING PROCESS



SOUTH AFRICA'S LOA MARKING PROCESS



SOUTH AFRICA: SABS EMC COC

The South African Bureau of Standards (SABS) supports the government’s Industrial Policy Action Plan (IPAP), which promotes the localization of production and addresses the current economic trends.

Modification of the SABS’ program on issuance of certificates of compliance related to electromagnetic compatibility for manufacturers, with an implementation date of June 1, 2017.

Product scope: Electronic equipment containing the following components:Electronic Circuit Board, Motor, Driver/Rectifier, Commutator Motor and Oscillator Clock; like information technology equipment (ITE), , household appliances, electric tools and similar apparatus, sound and television broadcast receivers and associated equipment, terrestrial and/or satellite, electrical lighting and similar equipment, etc.

LICENSE HOLDER

The certificate holder must be a local South African company.

CERTIFICATE VALIDITY

Certificate is valid for 3 years

SOUTH AFRICA’S SABS EMC CERTIFICATION MARKING PROCESS



SOUTH AFRICA: ICASA CERTIFICATION

The type approval of electronic communications equipment and facilities is one of the basic compliance obligations set out in the legislation governing electronic communications by the Independent Communications Authority of South Africa (ICASA). The rationale of the requirement is the protection ofthe quality of networks by ensuring they are not damaged by inferior equipment or equipment that does not comply with applicable technical standards.

Type Approval is required for radio equipment and telecommunications terminal equipment (RTTE) imported

into, or manufactured in, South Africa for marketing, commercial or private use. Only Type Approved equipment can be sold, leased or used in South Africa.

ICASA certification is mandatory for all radio equipment and telecommunication terminal equipment.

ICASA MARKING

- The ICASA logo and certificate number must be printed on the label
- A label on the product and outside packaging is mandatory, a logo in the manual is optional

- The minimum size of ICASA words is 3mm high and 3mm wide. The certificate number must be 1mm high
- The height to width ration of the ICASA label must be 1:2, e.g. 10mm x 20mm
- The label needs an authorization letter issued by ICASA before printing

Type approval certificates will only be issued to a “local South African registered company/concern”.



SOUTH AFRICA’S ICASA CERTIFICATION MARKING PROCESS



III. Conclusion

In fast moving global trading markets, the challenge of meeting mandatory legal requirements for target markets remains barrier to enterprise. Without demonstrating compliance and achieving certification against the relevant national and international standards, manufacturers and importers will continue to struggle to reach new markets.

The solution – choose a partner equipped with the knowledge, in-depth understanding and global reach to support applications, conduct testing and achieve certification, wherever you are based. With a global reach, local experts and unrivaled expertise in testing, verification and certification,



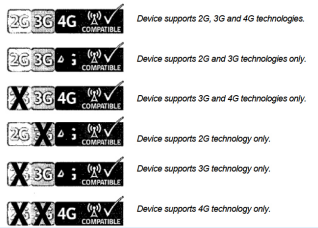
SGS is your ideal partner to develop and implement a worldwide marketing strategy for your electrical and electronics consumer goods.




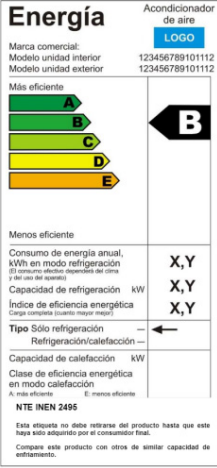




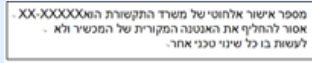
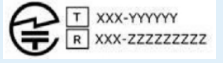
ANNEX: CERTIFICATION MARKS FOR SAFETY, EMC, IT, RF, ENVIRONMENT











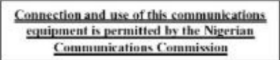
M - Mandatory V - Voluntary

COUNTRY	SCOPE DESCRIPTION	APPROVAL MARK	REGULATION	TECHNICAL INFO (SINGLE PHASE)
Algeria	Safety (COC)	N/A	M	230V, 50 Hz
	RF (ARCEP)	Homologue par l'ARPCE XXXXXX (XXXXX is the TA Certificate ID)	M	
Argentina	Safety+ Energy Efficiency (S-Mark)		M	220V, 50 Hz
	RF (ENACOM / RAMATEL)		M	
Australia & New Zealand	Safety + EMC + RF (RCM)		M	230V, 50 Hz
Australia	Energy Efficiency (GEMS and Energy Labels)		M	230V, 50 Hz
Belgium	Safety (CEBEC)		V	230V, 50 Hz
Brazil	Safety (INMETRO)		M	127V, 220V, 60 Hz
	EMC + RF+ Telecom +Safety (ANATEL)	 ANATEL HHHHH-AA-FFFFF	M	
	Environmental (CONAMA 401)		M	
Cambodia	Safety (ISC)		M	220V, 50 Hz
	RF (MPTC)	N/A	M	

COUNTRY	SCOPE DESCRIPTION	APPROVAL MARK	REGULATION	TECHNICAL INFO (SINGLE PHASE)
Central American (El Salvador, Costa Rica, Nicaragua, Guatemala, Panama, Honduras)	Energy Efficiency (RTCA)		M	El Salvador: 115V, 60Hz Costa Rica, Nicaragua, Guatemala: 120V, 60Hz Panama, Honduras: 110V, 60Hz
Chile	Safety (SEC)		M	220V, 50 Hz
	RF (SUBTEL)	No marking requirement for noncellular devices. Devices containing 2G, 3G or 4G technology will be required to display a multi-band stamp on the front of the box/packaging of the device to show the cellular technologies supported. 	M	













COUNTRY	SCOPE DESCRIPTION	APPROVAL MARK	REGULATION	TECHNICAL INFO (SINGLE PHASE)
China	Safety + EMC (CCC)		M	220V, 50 Hz
	Energy Efficiency		M	
	Environment (EPuP)	CMIIT ID: XXXXYZZZ	M	
	Telecom		M	
	China RoHS		M	
Colombia	Safety (RETIE/RETILAP)		M	110V, 60 Hz
	Energy Efficiency (RETIQ)		M	
	RF (CRC)	N/A	M/V	
Costa Rica	RF (SUTEL)	 (Only cellular)	M	120V, 60 Hz
Ecuador	Energy Efficiency (NTE)		M	120 V, 60 Hz
	RF (ARCOTEL)	N/A	M/V	




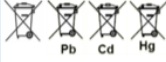



COUNTRY	SCOPE DESCRIPTION	APPROVAL MARK	REGULATION	TECHNICAL INFO (SINGLE PHASE)
Egypt	RF + Telecom (NTRA)	CE + WEEE	M	220 V, 50 Hz
El Salvador	Energy Efficiency (RTS)		M	115V, 60 Hz
	RF (ASEP)	N/A	V	
India	Safety (BIS)		M	230V/400V, 50 Hz
	RF (WPC)	N/A	M	
	RF + Telecom (TEC)		M	
	Environment (e-waste Rule)		M	
Indonesia	Safety (SNI)		M	220V, 50 Hz
	RF + Telecom (SDPPI)	(Certificate Number) (PLG ID Number)	M	
Israel	Safety + EMC (SII)	N/A	M	230V, 50 Hz
	Energy Efficiency (SII)			
	RF + Telecom (MOC)			
Japan	Safety + EMC (PSE)		M	100V/200V, 50Hz/60Hz
	Radio (JRL) Telecom (TBL)		M	
	Environment (J-Moss)		M	
	Environment (J-Moss)		V	
	Environmental (Regulation-Battery)		M	

COUNTRY	SCOPE DESCRIPTION	APPROVAL MARK	REGULATION	TECHNICAL INFO (SINGLE PHASE)
Jordan	RF (TRC)	TRC type approval No	M	230V, 50 Hz
Kenya	RF (CA)	N/A	M	240V, 50 Hz
Korea	Safety (KC)		M	220V, 60 Hz
	EMC +RF + TELECOM (KC)		M	
Kuwait	Safety (TIR)	N/A	M	230V/240V, 50 Hz
	RF (CITRA)	N/A	M	
Macedonia	RF (AEC)	CE	M	230V, 50 Hz
Malaysia	Safety (SIRIM-ST COA)		MI	240V, 50 Hz
	Energy Efficiency (MEPS)		M	
	RF (SIRIM)		M	
Mexico	Safety (NOM)		M	120V/127V/ 220V, 60 Hz
	Energy Efficiency (Energy Label)		M	
	RF (IFT)		M	
Moldova	EMC/Safety		M	230V, 50 Hz
	RF	CE or 	M	
Nigeria	Safety (PC & COC)	N/A	M	230V, 50 Hz
	RF (NCC)			

COUNTRY	SCOPE DESCRIPTION	APPROVAL MARK	REGULATION	TECHNICAL INFO (SINGLE PHASE)
Oman	RF (TRA))		M	240V, 50 Hz
Pakistan	RF (PTA)		M	230V, 50 Hz
Papua New Guinea	RF (NICTA)	N/A	M	230V, 50 Hz
Panama	Energy Efficiency (DGNTI)		M	110V, 60Hz
	RF (ASEP)	N/A	M	
Paraguay	RF (CONATEL)		M	220V, 50 Hz
Peru	Energy Efficiency		M	220V, 60 Hz
	RF (MTC)	N/A	M/V	
Philippines	Safety (PS)		M	220V, 50/60 Hz
	Safety (ICC)		M	
	Energy Efficiency (Energy Label)		M	
	EMC+RF (NTC)		M	

COUNTRY	SCOPE DESCRIPTION	APPROVAL MARK	REGULATION	TECHNICAL INFO (SINGLE PHASE)
Qatar	RF (CRA)	N/A	M	240V, 50 Hz
Saudi Arabia	RF (CST)		M	220V, 60 Hz
Serbia	Safety + EMC (COC)		M	230V, 50 Hz
	RF (COC)		M	
Singapore	Safety (Certificate of Conformity)		M	230V, 50 Hz
	Energy Efficiency (NEA Energy Label)		M	
	RF (IMDA)		M	
South Africa	Safety (LOA)	N/A	M	220V/230V, 50 Hz
	EMC (COC)	N/A	M	
South Africa	RF (ICASA)		M	
Switzerland	Safety + EMC (S+)		V	230V, 50 Hz
Taiwan	Safety + EMC + RoHS (BSMI)		M	110V/220V, 60 Hz
	RF (NCC)		M	
	Environment (Waste Disposal Act)		M	
Thailand	Safety & EMC (TISI)		M	220V, 50 Hz
	RF (NBTC)	N/A or 	M	

COUNTRY	SCOPE DESCRIPTION	APPROVAL MARK	REGULATION	TECHNICAL INFO (SINGLE PHASE)
Gulf Countries	Safety and EMC		M	220V - 240V, 50 Hz
UAE	Safety (ECAS COC)		M	230V/240V, 50 Hz
	EQM		V	
	EER		M	
	RF (TDRA)		M	
Ukraine	Safety + Hygienic + (UA TR)		M	220V, 50 Hz
	RF + Telecom (UA TR)		M	
Uruguay	RF (URSEC)	N/A	M	230V, 50 Hz
US	Safety (SGS NA)		M/V	120/240V, 60 Hz
	EMC (FCC)		M	
	RF (FCC)	FCC ID	M	
Vietnam	Safety + EMC (CR)		M	220V, 50 Hz
	Energy Efficiency (Energy Label)		M	
	RF (MIC)			

COUNTRY	SCOPE DESCRIPTION	APPROVAL MARK	REGULATION	TECHNICAL INFO (SINGLE PHASE)
Europe	Conformity According to Directives		M	220V - 240V, 50 Hz
	Safety		V	
	EU RoHS	CE	M	
	EU WEEE		M	
	EU Batteries Directive		M	
	Food Contact Material		M	
North America	Environment (Regulation-Battery)		M	
	Environment (Mercury Containing Packaging Label)		M	

MR BEN LV
Deputy Director of EEC & Auto, SGS-CSTC

Ben studied Electronic and Electrical Engineering (EEE) and received his master’s degree (MSc) from the University of Sheffield, United Kingdom in 2008. He joined SGS-CSTC as a management trainee in 2011 and then worked as a Key Account Manager and promoted to North China Regional Key Account Manager in 2012. With his rich knowledge of market trends and outstanding international communication skills, he was promoted to GMA Regional Manager in December 2013. In addition, he is also a key player in various type approval schemes.

MS CHERRY LI
Senior GMA Operation Manager, SGS-CSTC

Cherry obtained her master’s degree in Project Management at the SunYat Sen University. She joined SGS China in 2004 and has more than 20 years of work experience in the field of electronic and electrical product certification. She is a core member of the GMA team and a senior project manager for wireless products.

MS HELLEN ZHOU
GMA & HOM Manager in Shanghai, SGS-CSTC

Hellen received her bachelor’s degree in Mechatronic Engineering from Nanjing Normal University and joined SGS in 2008 in the department of Electrical & Electronics Consumer. She has accumulated more than 16 years working experience in certification fields to covers Electrical and Electronic product, vehicle and its components. She acts as a key payer of GMA team as well as operation manager of vehicle homologation.

ABOUT SGS

We are SGS – the world's leading testing, inspection and certification company. We are recognized as the global benchmark for sustainability, quality and integrity.

SGS is a leading independent third-party service provider offering efficient solutions to help safeguard against REACH in consumer goods products and supply chains. SGS can fulfill all your testing, certification, technical assistance, audit, inspection and verification needs.

Enhancing processes, systems and skills is fundamental to your ongoing success and sustained growth. We enable you to continuously improve, transforming your services and value chain by increasing performance, managing risks, better meeting stakeholder requirements and managing sustainability. With a global presence, we have a history of successfully executing large scale, complex international projects. Our people speak the language, understand the culture of the local market and operate globally in a consistent, reliable and effective manner.

We have a harmonized approach to delivering services to our customers, leveraging the largest independent network of consumer product experts in the world.

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