KCC Certification

Sunwoo Kim
SIEMIC Testing & Certification Services
AGENDA

1. Product Certification in Korea
2. KCC Certification Program
3. Certification Procedure
4. Required Documents
5. Post Market Surveillance
Product Certification in Korea

Certification for Broadcasting and Communications Equipment
- MIC Mark
- KCC Mark

Safety Certification Scheme for Electrical Appliances
- eK Mark
- KC Mark
# Product Certification in Korea

<table>
<thead>
<tr>
<th>Governing Body</th>
<th>Korea Communications Commission</th>
<th>Ministry of Knowledge Economy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regulatory Body</td>
<td>Radio Research Agency (RRA)</td>
<td>Korea Electric Testing Institute (KETI)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Korea Testing Laboratory (KTL)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Electric Safety Assoc. of Korea (ESAK)</td>
</tr>
<tr>
<td>Equipment Scope</td>
<td>Information Technology (IT) Radio/Wireless Equipment Terminal/Wired Telecom Equipment</td>
<td>Household Electrical Appliances Cables, Plugs, Power Supplies Audio/Video Appliances, etc.</td>
</tr>
</tbody>
</table>
## Product Certification in Korea

<table>
<thead>
<tr>
<th>Feature</th>
<th>Validity</th>
<th>In-country Testing</th>
<th>Labeling</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>None</td>
<td>No</td>
<td>Mandatory</td>
</tr>
<tr>
<td></td>
<td>5 years</td>
<td>Yes, only in-country testing acceptable</td>
<td>Mandatory</td>
</tr>
</tbody>
</table>
The change of the name from Radio Research Laboratory (RRL) to Radio Research Agency (RRA) reflects the change of primary functions of this agency.
AGENDA

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KCC Certification Program

History of Korean Certification System

Specific Absorption Rate (SAR)

 Electromagnetic Interference verification ('97.5 Changed to EMC Registration)

Electrical Communication Equipments Type Approval

Radio Equipment Type verification ('97.5 Separated to Type verification and registration)

- 8 -
History of Korean Certification System

Wireless Equipment
- Type Verification
  - '78.2~'82.4
- Type Registration
  - '82.4~'00.5
  - '97.5~'00.5

IT Equipment
- '90.9~'96.2
  - EMI ()
  - '96.2~'97.5
  - EMI MEMS
  - '97.5~'00.5

Telecom Equipment
- '84.9~'92.3
  - '92.3~'95.4
  - '95.4~'00.5

'00.5~'08.10

'08.11~NOW
### KCC Certification - Classification

<table>
<thead>
<tr>
<th>Subjected Device</th>
<th>Type Approval</th>
<th>Type Verification / Registration</th>
<th>EMC Registration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wired Communication Equipments</td>
<td><strong>FAT Article 33</strong></td>
<td><strong>RWA Article 46</strong></td>
<td><strong>RWA Article 57</strong></td>
</tr>
<tr>
<td>Network Equipments</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Telephones and others (69)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Testing Scope</strong></td>
<td>Telecommunication / Safety</td>
<td>RF Function Test, SAR</td>
<td>EMI, EMS</td>
</tr>
<tr>
<td><strong>Base Provision</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Type verification:</strong></td>
<td>Type registration:**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Radar, Digital Calling Equipment, human safety device (17)</td>
<td>Mobile Phone, radio (28)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Testing Scope:**
- Wired Communication Equipments
- Network Equipments
- Telephones and others (69)

**Type verification:**
- Radar, Digital Calling Equipment, human safety device (17)

**Type registration:**
- Mobile Phone, radio (28)

**Subjected Device:**
- Computer
- Computer Accessories
- Telecom Terminal Equipments
- Computer Internal Component

**FAT**: Framework Act on Telecommunication
**RWA**: Radio Wave Act

www.siemic.com
AGENDA

1. Product Certification in Korea
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4. Required Documents
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KCC Certification Procedure

1. Applicant (Manufacturer) Apply for Testing & KCC Certificate
2. Designated Test Lab (i.e. SIEMIC) Issue Test Report & KCC Certificate
3. RRA Issue Certification
4. Review and Certify
5. Market Surveillance
6. Label, Production and Sales

- Apply for Certification
- Issue Certification
- Issue Test Report & KCC Certificate
- Apply for Testing & KCC Certificate
AGENDA

1. Product Certification in Korea
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Required Documents

Non-Radio IT Equipment (EMC Registration)

- User Manual in Korean (Please see Appendix.1 for more information)
- Block Diagram
- Domestic Agency Assignment Form
- Test Report (EMS / EMI)
- External Photo of Equipment
  - Setup Photo, Top, Bottom, Front, Back, Left, Right, KCC Label View
- Internal Photo of Equipment
  - Open Case, Top, Bottom view of internal components
Required Documents

Radio Device (RF Type Registration / EMC Registration)

- User Manual in Korean
- Antenna Specification
- Block Diagram
- PCB / Component Layout
- BOM (Bill of Materials) – Part List
- Circuit Diagram
- Domestic Agency Assignment Form
- Test Report
- External Photo of Equipment
  Top, Bottom, Front, Back, Left, Right, KCC Label View – Must show KCC mark and KCC number
- Internal Photo of Equipment
  Open Case, Top, Bottom view of internal components
Required Documents

Telecom Equipment

- User Manual in Korean
- Block Diagram
- PCB / Component Layout
- BOM (Bill of Materials) – Part List
- Circuit Diagram
- Domestic Agency Assignment Form
- Test Report
- External Photo of Equipment
  - Top, Bottom, Front, Back, Left, Right, KCC Label View – Must show KCC mark and KCC number
- Internal Photo of Equipment
  - Open Case, Top, Bottom view of internal components
Required Documents – Label

- With **effective from September 30, 2008**, all KCC certified product must comply with new labeling requirements.

  XXX-YYYYYYYYYYYYYYYYY (A or B)

- **First Part (XXX): Company ID**
  - Given to applicant on first application
  - Composed of 3 alphanumeric characters

- **Second Part (YYYYYYYYYYYYYYY): Product ID**
  - Can include additional characters (Up to 14 characters)
  - All characters are written in alphanumeric
  - Any special characters except hyphen (-) are not allowed

- **Third Part (A or B): Class of Equipment**
  - In case of EMC Registration, the class of equipment must be indicated
Required Documents – Label

- KCC Logo – Dimension & Color

<table>
<thead>
<tr>
<th>Color</th>
<th>Black-and-white</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black</td>
<td>Black Black CVC/CMYK K100</td>
</tr>
<tr>
<td>Red</td>
<td>Pantone 485 CVC/CMYK M100Y100 K10</td>
</tr>
<tr>
<td>Blue</td>
<td>Pantone 661 CVC/CMYK C100 M75</td>
</tr>
<tr>
<td>Gray</td>
<td>Pantone DS325-3C/CMYK K70</td>
</tr>
<tr>
<td>Light gray</td>
<td>Pantone DS325-6C/CMYK K40</td>
</tr>
</tbody>
</table>
Required Documents – Label

- KCC Logo – Dimension & Color (continued)

20mm  10mm  7mm  5mm

放送통신위원회  放送통신위원회  放送통신위원회  放送통신위원회
Required Documents – Label

- KCC Logo – Dimension & Color (continued)

Very Visible Place on the Device

If the total size of label < 7mm,

可以被从标签中移除。
Required Documents – Label

- KCC Label must contain the following information in Korean

1. 기기의 명칭/(모델명) : PRINTER (ABCD1234)
2. 인증 번호 : XYZ-ABCD1234(B)
3. 인증받은 자의 상호 : XYZ TECHNOLOGIES
4. 제조 년 월 : 2008년 월 일
5. 제조사/제조국가 : XYZ TECHNOLOGIES

1. 모델명 : Model number (ex. PRINTER (ABCD1234))
2. 인증번호 : KCC approval number (ex. XYZ-ABCE1234 (B))
3. 인증 받은 자의 상호 : Applicant (ex. XYZ Corporation)
4. 제조 년 월 : Date manufactured (yyyy 년 mm 월 dd 일)
5. 제조사/제조국가 : Manufacturer (ex. Delta Corporation) / Country of manufacture (ex. Taiwan)
Required Documents – User Manual

Manual having equipments description, specification, composition and operational method prepared in Korean Language

- Specification:
The electric power, the equipment size / weight / environment of use (temperature, humidity, etc.), communication protocol, interface to communication networks, etc.

- Composition:
The whole equipment composition should be described using figures, photos, or written explanation to know what components the equipment is composed of.

- Operational method:
Should show how to install the equipment, how to operate it, how to maintain and repair, etc. for everyday use of the equipment. Also, special cautions with regard to the equipment's operational performance or safety should be included.
Required Documents – User Manual (EMC)

For EMC Registration, the class information must be shown in the manual.

A class equipment (Business broadcasting and communications equipment)

이 기기는 업무용(A급)으로 전자파적합등록을 한 기기이오니 판매자 또는 사용자는 이 점을 주의하시기 바라며, 가정 외의 지역에서 사용하는 것을 목적으로 합니다.

Translation:
This equipment is for business use, and has acquired electromagnetic conformity registration, so sellers or users are required to take caution in this regard.

B class equipment (Home broadcasting and communications equipment)

이 기기는 가정용(B급)으로 전자파적합등록을 한 기기로서 주로 가정에서 사용하는 것을 목적으로 하며, 모든 지역에서 사용할 수 있습니다.

Translation:
This equipment is for home use, and has acquired electromagnetic conformity registration, so it can be used not only in residential areas, but also other areas.
For 2.4 GHz Radio device, the following warning message must be included in the user manual

해당무선설비기기는 운용 중 전파혼신가능성이 있으므로 인명안전과 관련된 서비스는 할 수 없습니다

Translation:

This radio device is not allowed to be used for human safety since it has possibility of radio interference during operation
Required Documents – External Photo

- Photos showing all faces of the device (Top, Bottom, Front, Back, Sides)
- Enlarged photo of all connection ports and label should be included.

Sample of Correctly Prepared KCC Label

If the total size of KCC Logo is less than 7mm, following word

Can be removed from the label

For device subjected to type registration of verification, following statement should be shown in the label

“This radio device has possibility of radio interference during operation”
Required Documents – Internal Photo

- Photos of each sides of every PCB in the device
- Should clearly show all the components
- If PCB is multilayered, diagram of every layer must be included.
- If components are covered with shielding, photo with and without shielding must be taken.

Sample

Is CAD drawing allowed?

✓ YES, but photo is preferable
Required Documents – Block Diagram

- Complete, brief design content of the whole equipment including gradual systems widely used in related technologies.
- For type approval-targeted equipments, block diagram together with the connection block diagram that describes communication networks to which each external port of the equipment can be connected should be submitted.

Check Point

- Check if diagram shows the whole system design
- For type approval, show the portion on connection
- Radio equipments show electrical characteristics
Required Documents – Schematic

- Basic Model’s schematics/circuit diagram
- Schematics of components/modules with certification do not need to be submitted.
- Not required for EMC registration

Check Point

- Check if circuit diagram corresponds actual device
- If debugged during testing, check if it is indicated on circuit diagram
- For multifunctional device, check if wireless part is omitted
- If using certified components, check the certification
Required Documents – BOM

- List of major components that can possibly change technological criteria of the equipment.
- Not necessary for EMC registration

**Sample**

<table>
<thead>
<tr>
<th>Number</th>
<th>Location</th>
<th>Manufacturer</th>
<th>Model</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>L1</td>
<td>Ganada Electronics</td>
<td>LL01</td>
<td>2mH</td>
</tr>
<tr>
<td>2</td>
<td>C1</td>
<td>Dara Electronics</td>
<td>ABC-1</td>
<td>250V.0.1uf</td>
</tr>
</tbody>
</table>
Required Documents – Test Report

- Test report issued by RRA
- Test report issued by accredited test lab

Check Point

- Testing Setup Instruction
- Product Specification
### Required Documents – Test Report

<table>
<thead>
<tr>
<th>Certification</th>
<th>Testing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rule Maker</td>
<td>KCC</td>
</tr>
<tr>
<td>Accreditation Body</td>
<td>None</td>
</tr>
<tr>
<td>Done by</td>
<td>RRA</td>
</tr>
</tbody>
</table>

* 0.3 % (38 cases out of more than 11194)
Required Documents – Local Agency Form

Applicants based outside Korea need to appoint local representatives.

Required to make sure there is a local responsible party for applied product.

Fill up the form provided with following information and get it signed by both parties.

<table>
<thead>
<tr>
<th>Applicant</th>
<th>Reporting Supplier</th>
</tr>
</thead>
<tbody>
<tr>
<td>Company Name</td>
<td>Company Name</td>
</tr>
<tr>
<td>CEO or a Responsible person's Name</td>
<td>Business No.</td>
</tr>
<tr>
<td>Address</td>
<td>Representative</td>
</tr>
<tr>
<td>Tel.</td>
<td>Address</td>
</tr>
<tr>
<td>Staff in charge</td>
<td>Tel.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Applied product</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Equipment Name</td>
<td>Staff in charge</td>
</tr>
<tr>
<td>Model</td>
<td></td>
</tr>
<tr>
<td>Manufacturer</td>
<td></td>
</tr>
<tr>
<td>Country of Origin</td>
<td></td>
</tr>
</tbody>
</table>

Applicants based outside Korea need to appoint local representatives.

Required to make sure there is a local responsible party for applied product.

Fill up the form provided with following information and get it signed by both parties.
Required Documents – Local Agency Form

<table>
<thead>
<tr>
<th>Domestic Agency Assignment</th>
</tr>
</thead>
<tbody>
<tr>
<td>To: Director General of Radio Research Laboratory</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Assigner</th>
</tr>
</thead>
<tbody>
<tr>
<td>Company Name:</td>
</tr>
<tr>
<td>Representative:</td>
</tr>
<tr>
<td>Address:</td>
</tr>
<tr>
<td>Telephone: Fax</td>
</tr>
<tr>
<td>Contact Person: E-mail</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Applied Product</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product Name:</td>
</tr>
<tr>
<td>Model Name:</td>
</tr>
<tr>
<td>Manufacturer:</td>
</tr>
<tr>
<td>Country of origin:</td>
</tr>
</tbody>
</table>

Under Article 5 Paragraph 6 of Regulations for Certification of Information and Communications Equipment, the above subject assignee/consignee assigns a domestic agency for the above product as shown below.

Confirmation Date: , , 2008

<table>
<thead>
<tr>
<th>Domestic Agency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Company name: SIEMIC (must be local company in Korea)</td>
</tr>
<tr>
<td>Company ID: 123456</td>
</tr>
<tr>
<td>Representative: L.Bai (Signature or company seal)</td>
</tr>
<tr>
<td>Address: 2206 in Korea</td>
</tr>
<tr>
<td>Telephone: 02-12345678 Fax 02-12345670</td>
</tr>
<tr>
<td>Contact Person: L.Bai E-mail <a href="mailto:info@siemic.com">info@siemic.com</a></td>
</tr>
</tbody>
</table>
KCC Certification – Exempted Equipment

- Produced, imported for the purpose of R&D : Less than 5 ea.
- Produced for the purpose of export only
- Equipment used for exhibit or competition
- Equipment subjected to type approval used by common carriers for its service
- Equipments subjected to type approval provided by common carriers to its users
- Installed on maritime or aeronautical facilities inducted from abroad
- Brought by traveller for his own use subjected to type approval or EMC registration : 1 ea.
- Component used for maintenance of computer system which is EMC registered
- Amateur radio equipment produced for his own use
인증의 종류

Certificate Type

상호 또는 성명

Trade Name or Applicant

기기의 명칭

Equipment Name

기본모델명

Basic Model Number

파생모델명

Series Model Number

인증번호

Certification No

제조자/제조국가

Manufacturer/Country of Origin
인증의 종류

Certificate Type

상호 또는 성명

Trade Name or Applicant

기기의 명칭

Equipment Name

기본모델명

Basic Model Number

파생모델명

Series Model Number

인증번호

Certification No

제조자/제조국가

Manufacturer/Country of Origin
Certificate of Broadcasting and Communication Equipment

Certification Type
(Type Registration/EMC Registration)

상호 또는 성명
Trade Name or Applicant
무선테이터통신시스템용 무선기기

기기의 명칭
Equipment Name
무선데이터통신시스템용 무선기기

기본모델명
Basic Model Number
제조자/제조국가
Manufacturer/Country of Origin

인증번호
Certification No
제조자/제조국가
Manufacturer/Country of Origin

인증의 종류
Certificate Type
형식등록/전자파적합등록

상호 또는 성명
Trade Name or Applicant
무선데이터통신시스템용 무선기기

기기의 명칭
Equipment Name
무선데이터통신시스템용 무선기기

기본모델명
Basic Model Number
제조자/제조국가
Manufacturer/Country of Origin

인증번호
Certification No
제조자/제조국가
Manufacturer/Country of Origin

인증의 종류
Certificate Type
형식등록/전자파적합등록

상호 또는 성명
Trade Name or Applicant
무선데이터통신시스템용 무선기기

기기의 명칭
Equipment Name
무선데이터통신시스템용 무선기기

기본모델명
Basic Model Number
제조자/제조국가
Manufacturer/Country of Origin

인증번호
Certification No
제조자/제조국가
Manufacturer/Country of Origin
Permissive Change

전파연구소

수신자 수신자 참조
(경유)
제목 방송통신기기 변경신고(전자파적합) 처리결과 통보
1. 관련
가. 방송통신기기 형식검정-형식등록 및 전자파적합등록에 관한 고시, 제6조(심사), 제8조( 변경신고 등)
나. 방송통신기기 안정성평가의견서 2008.6.13, 2008.07.17 등 12건
2. 위 관련, 방송통신기기 변경신고에 대하여 심사한 결과 관련 규정에 적합하여
  o DCDY형 Personal Computer [DELL INC.] 등 12년 (세부내역 별첨참조)
별첨 : 방송통신기기 안정사항 변경내역 1부, 2부.

전파연구소장
수신자 DELL INC., SAMW ELECTRIC CO., LTD., 송신인 전파연구소, 한국전기시험원, 한국전자협회 대표
이사
사은으시당시에 감사의례의 전달

장조차
사항 통질인증과-0728 ( 2008.09.22. ) 접수
주 431-0380 경기도 안양시 동안구 소메사에 301번지
전화(031)436-2304 / 전산 (031)436-2305 / E-mail: ninthcloud@hanas.co.kr / 공개
AGENDA

1. Product Certification in Korea
2. KCC Certification Program
3. Certification Procedure
4. Required Documents
5. Post Market Surveillance
Post Market Surveillance

- Whether **Certified**?
- Whether **Correct Label attached**?
- Whether **Tech. Standard Satisfied**?
- Whether **Modification Reported**?

(Affecting on Electrical Characteristic)
Post Market Surveillance

All activities under which certified equipments are surveyed, confirmed and tested for whether they are distributed and sold in the market in accordance with certification marking and technical criteria

- EQUIPMENT SUBJECT TO INSPECTION -

- Equipment with failure experience
- Equipment with questionable test results
- Equipment certified under an applicant with a violation record
- Equipment with civil claims or record of complaints
- Equipment which is widely distributed and/or used
- Equipment with many applications for module changes
## Post Market Surveillance

### METHOD OF SECURING SAMPLES

- Direct purchase from the market
- Request manufacturer / local agent / importer to provide samples

### SURVEILLANCE VERIFICATION CHECKLIST

- Check whether the certification mark was properly labeled
- Check whether it complies with the relevant technical standards
- Check whether it is the same equipment compared to the sample tested at the time of application / certification (circuitry, housing, etc.)
### Post Market Surveillance

<table>
<thead>
<tr>
<th>Violation</th>
<th>Penalty</th>
</tr>
</thead>
<tbody>
<tr>
<td>Production/Sales/Import without certification</td>
<td>- Up to 3 yrs in prison&lt;br&gt;- 30 Million Korean Won fine</td>
</tr>
<tr>
<td>Product not complying with technical standard</td>
<td>- Corrective Order&lt;br&gt;- Suspension of production/import</td>
</tr>
<tr>
<td>Certified in deceptive way</td>
<td>- Ban to produce/import&lt;br&gt;- Cancellation of Certification</td>
</tr>
</tbody>
</table>
Post Market Surveillance (Continued)

<table>
<thead>
<tr>
<th>Violation</th>
<th>Penalty</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Marking / False Marking</td>
<td>- 1&lt;sup&gt;st&lt;/sup&gt;: Order for Correction</td>
</tr>
<tr>
<td></td>
<td>- 2&lt;sup&gt;nd&lt;/sup&gt;: Cancellation and Withdraw</td>
</tr>
<tr>
<td></td>
<td>- Up to 3 Million Korean Won fine</td>
</tr>
</tbody>
</table>

*Violating the order to withdraw / collection etc.*
Up to 3 yrs in prison / 30 Million Korean Won fine
KCC Logo – FAQ

Q: For the tiny products with the size of new logo smaller than 7mm, can we mark the KCC logo only and omit the certificate number?

A: Yes! But it needs to put the omitted certificate number either on the package of products or on the user’s manual.
Q: For the products certified after Nov 1\textsuperscript{st}, 2008, is it mandatory to carry new KCC logo?

A: Yes! RRA requests to carry new KCC label at least on every product certified after 1\textsuperscript{st} of Nov., 2008. They even strongly recommend to use the new KCC logo on the products manufactured or distributed after 1\textsuperscript{st} of Nov., 2008. The old MIC logo still can be used on the products certified before 1\textsuperscript{st} of Nov., 2008 only.