



# **BAROC ATM Certification**

***Administrative Process v1.0***

**BAROC ATM certification administrative process      Revision History**

| Item | Revision Date | Chapter | Contents of Revision |
|------|---------------|---------|----------------------|
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| 2    |               |         |                      |
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| 13   |               |         |                      |
| 14   |               |         |                      |
| 15   |               |         |                      |
| 16   |               |         |                      |
| 17   |               |         |                      |
| 18   |               |         |                      |
| 19   |               |         |                      |
| 20   |               |         |                      |

# Contents

|          |   |    |
|----------|---|----|
| 1.       | Introduction.....   | 4  |
| 1.1.     | Purpose.....  | 4  |
| 1.2.     | Intended Readers.....   | 4  |
| 1.3.     | Structure.....  | 4  |
| 1.4.     | Revisions.....  | 5  |
| 1.5.     | Reference Materials.....  | 5  |
| 1.5.1.   | BAROC Documents.....  | 5  |
| 1.5.2.   | Other documents.....  | 5  |
| 1.6.     | Inquiries.....  | 5  |
| 1.7.     | Definitions of terms.....   | 5  |
| 2.       | Overview of the BAROC certification process.....                            | 7  |
| 2.1.     | Purpose of the BAROC certification process.....                             | 7  |
| 2.2.     | Certification process Participants.....                                     | 7  |
| 2.3.     | Target of certification.....  | 8  |
| 3.       | BAROC certification process: Level 1.....                                   | 9  |
| 3.1.1.   | Certification flowchart.....  | 9  |
| 3.1.2.   | Registration Phase.....   | 10 |
| 3.1.3.   | Certification Phase.....  | 10 |
| 3.1.3.1. | Pre-requisites.....   | 10 |
| 3.1.3.2. | Protocol simulator.....   | 10 |
| 3.1.3.3. | Certification.....  | 10 |
| 3.1.3.4. | Proof of certification.....   | 11 |
| 4.       | BAROC certification process: Level 2.....                                   | 12 |
| 4.1.1.   | Certification flowchart.....  | 12 |
| 4.1.2.   | Registration phase.....   | 13 |
| 4.1.3.   | Certification phase.....  | 13 |
| 4.1.3.1. | Pre-requisites.....   | 13 |
| 4.1.3.2. | Certification.....  | 13 |
| 4.1.3.3. | Proof of certification.....   | 13 |
| 5.       | Laboratory Evaluation and Accreditation procedure.....                      | 15 |
| 5.1.     | Laboratory requirements.....  | 15 |
| 5.2.     | Accreditation procedure.....  | 15 |
| 5.3.     | Fees.....   | 16 |
|          | Appendix A: Forms.....  | 17 |
|          | Appendix A1: Registration Form.....   | 17 |
|          | Appendix A2: ICS for Level 1.....   | 18 |
|          | Appendix A3: Communication flow for protocol simulator.....                 | 19 |
|          | Appendix A4: ICS for Level 2.....   | 20 |
|          | Appendix A5: Terminal certification setting.....                            | 21 |
|          | Appendix A6: Application form for BAROC ATM certification laboratories..... | 22 |

# **1. Introduction**

This chapter describes the purpose, structure and related materials of this document.

## **1.1. Purpose**

The purpose of this document is to describe the procedures and the provisions that shall be observed in order to receive a BAROC approval for ATM in Taiwan.

## **1.2. Intended Readers**

This document is intended for Vendors and other parties involved in ATM development.

- Approval Test for Level 1: refer to Chapter 1, 2, 3.
- Approval Test for Level 2: refer to Chapter 1, 2, 4.
- Accreditation for BAROC laboratories: refer to Chapter 5

## **1.3. Structure**

The structure of this document is as follows:

1. **Introduction**  
This chapter describes the purpose, structure and related materials.
2. **Overview of the BAROC certification process**  
This chapter gives an overview of the BAROC ATM Test Program.
3. **BAROC certification process – Level 1**  
This chapter describes the detailed procedure for BAROC Level 1 certification.
4. **BAROC certification process – Level 2**  
This chapter describes the detailed procedure for BAROC Level 2 certification.
5. **Laboratory evaluation and accreditation**  
This chapter describes the detailed evaluation and accreditation procedure to become an official BAROC testing laboratory.

### **[Appendix A. Forms](#)**

Forms required for applying for Approval Tests

## **1.4. Revisions**

BAROC may revise this document from time to time, as necessary. If this document is revised, the related parties shall follow the revised contents. Details such as the effective date of the new version are decided by BAROC.

## **1.5. Reference Materials**

This section lists reference materials related to this document.

### **.1. BAROC Documents**

Related BAROC documents are as follows:

- BAROC ATM Level 1 requirements Version 1.0
- BAROC ATM Level 1 Test Cases Version 1.0
- BAROC ATM Level 2 requirements Version 1.0
- BAROC ATM Level 2 Test Cases Version 1.0

### **.2. Other documents**

- ISO/IEC 7816-1:1998/Amd 1:2003
- ISO/IEC 7816-2:1999: Identification cards -- Integrated circuit cards -- Part 2: Cards with contacts -- Dimensions and location of the contacts
- ISO/IEC 7816-3:1997: Information technology -- Identification cards -- Integrated circuit(s) cards with contacts -- Part 3: Electronic signals and transmission protocols
- EMV Book 1, Application Independent ICC to Terminal Interface requirements Version 4.1, May, 2004
- EMV Book 2, Security and Key Management, Version 4.1, May, 2004
- EMV Book 3, Application Specification, Version 4.1, May, 2004
- EMV Book 4, Cardholder, Attendant, and Acquirer Interface Requirements, Version 4.1, May, 2004
- BAROC Specifications: Functional Specification FISC COS, v3.2 (Chinese version).

## **1.6. Inquiries**

If you have any comments or questions regarding this document, please contact BAROC at the following e-mail address:

|                       |                 |
|-----------------------|-----------------|
| <b>Contact name</b>   | Ms Vicky Tsai   |
| <b>E-mail address</b> | vicky@ba.org.tw |

## **1.7. Definitions of terms**

- **Accreditation:** formal recognition by BAROC that a testing laboratory is competent to carry out specific functions as defined by BAROC administrative process.
- **Compliance:** meeting all the requirements and also any implemented optional requirements.
- **BAROC (The Bankers Association of the Republic of China):** Founded in 1983, the main objectives of the organization are to assist the government in implementing

**BAROC Approval Test Program administrative process**  
**1. Introduction**

economic and financial policies, to promote economic development, and to strengthen relationships among its members so as to improve their mutual benefits


- **BAROC certificate:** written statement that documents the decision of BAROC that a specified product type has demonstrated sufficient conformance to the BAROC requirements on the date of testing.
- **BAROC certification process:** the execution of a defined set of tests against requirements described in BAROC specification to determine compliance with that specification.
- **EMVCo:** the organization established to maintain the EMV specifications and administer type approval against those specifications.
- **FISC (Financial Information Service Co., Ltd):** Founded in 1998, FISC operations include financial chip cards, a shared CD/ATM system, interbank remittances, bulk payments, credit card services, debit card services, financial XML, FEDI, Internet banking, mobile banking systems, inquiry services, information system disaster recovery, and data media storage. FISC is also a technical advisor for BAROC.
- **Function:** a process accomplished by one or more commands and resultant actions that are used to perform all or part of a transaction.
- **Implementation conformance statement (ICS):** a form completed by the IFM or the application provider listing all optional functions as specified in the reference specification implemented in the IFM or in the application.
- **Interface module (IFM):** a virtual or abstract device that contains the necessary hardware and software to power the ICC and to support communication between the terminal and the ICC up to the transport layer. The three main functional components are the mechanical, electrical and logical ICC.
- **International Organization for Standardization (ISO):** an international organization that provides standards for financial transactions and telecommunication messages. ISO works in conjunction with the International Telecommunication Union (ITU) for standards that affect telecommunications. ISO supports specific technical committees and work groups to promulgate and maintain financial service industry standards
- **Laboratory:** a facility that performs type approval testing.
- **Protocol:** method of communication between the ICC and the terminal, represented in this specification by T=0 (character protocol) and T=1 (block protocol).
- **T=0:** character-oriented asynchronous half-duplex transmission protocol.
- **T=1:** block-oriented asynchronous half-duplex transmission protocol.

## **2. Overview of the BAROC certification process**

This chapter gives an overview of the BAROC certification administrative process

### **2.1. Purpose of the BAROC certification process**

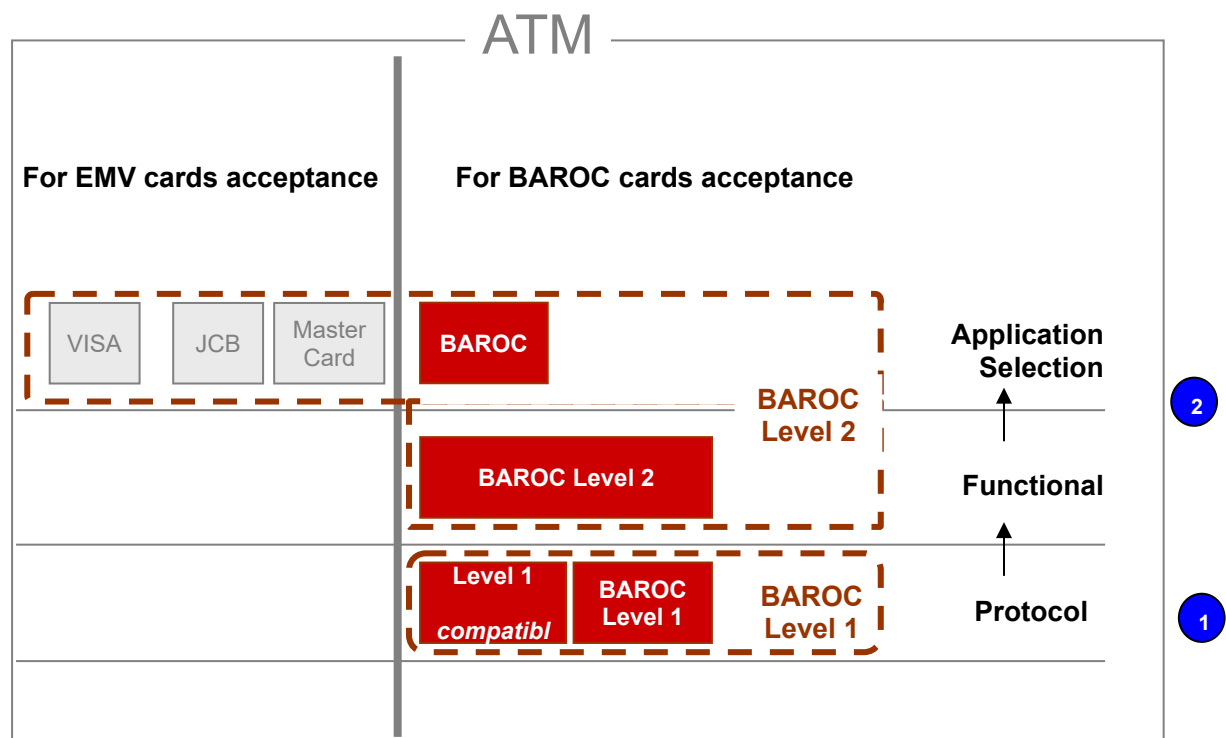
The purpose of Approval Test Program is to verify that ATM developed by Vendors ("Product") complies with the requirements edited by BAROC.  
The scope of this document covers BAROC certification process for both level 1 and Level 2.

 **BAROC certification is not mandatory** for ATM vendors; meanwhile, BAROC strongly recommends the vendor, to go through the certification process to avoid any interoperability issues on the field.

### **2.2. Certification process Participants**

BAROC Certification process is intended for parties ("Vendor") who want to develop and/or sell ATM in Taiwan. This includes Level 1 IFM manufacturers, Application providers and system integrators.

## 2.3. Target of certification



### 1 BAROC Level 1 certification

The objective of the BAROC level 1 certification is to check the compliance of the ATM with the ISO 7816 standard and the EMV level 1 specifications. In other terms, an ATM certified by BAROC should accept- at mechanical, electrical and protocol level- any financial card (ISO 7816 or EMV) which could be found on the field today. Practically, the BAROC level 1 certification also covers the EMV level 1 certification.


The BAROC level 1 certification administrative process is detailed in the Chapter 3 of the present document.

### 2 BAROC Level 2 certification

The objective of the BAROC level 2 certification is to ensure that:

- A BAROC certified ATM is able to accept a BAROC card, an EMV card or a Combo card (i.e a card supporting both BAROC and EMV applications) and is able to select the appropriate application.
- A BAROC certified ATM is able to process any kind of BAROC transaction (i.e. withdraw, balance inquiry, fund transfer...).

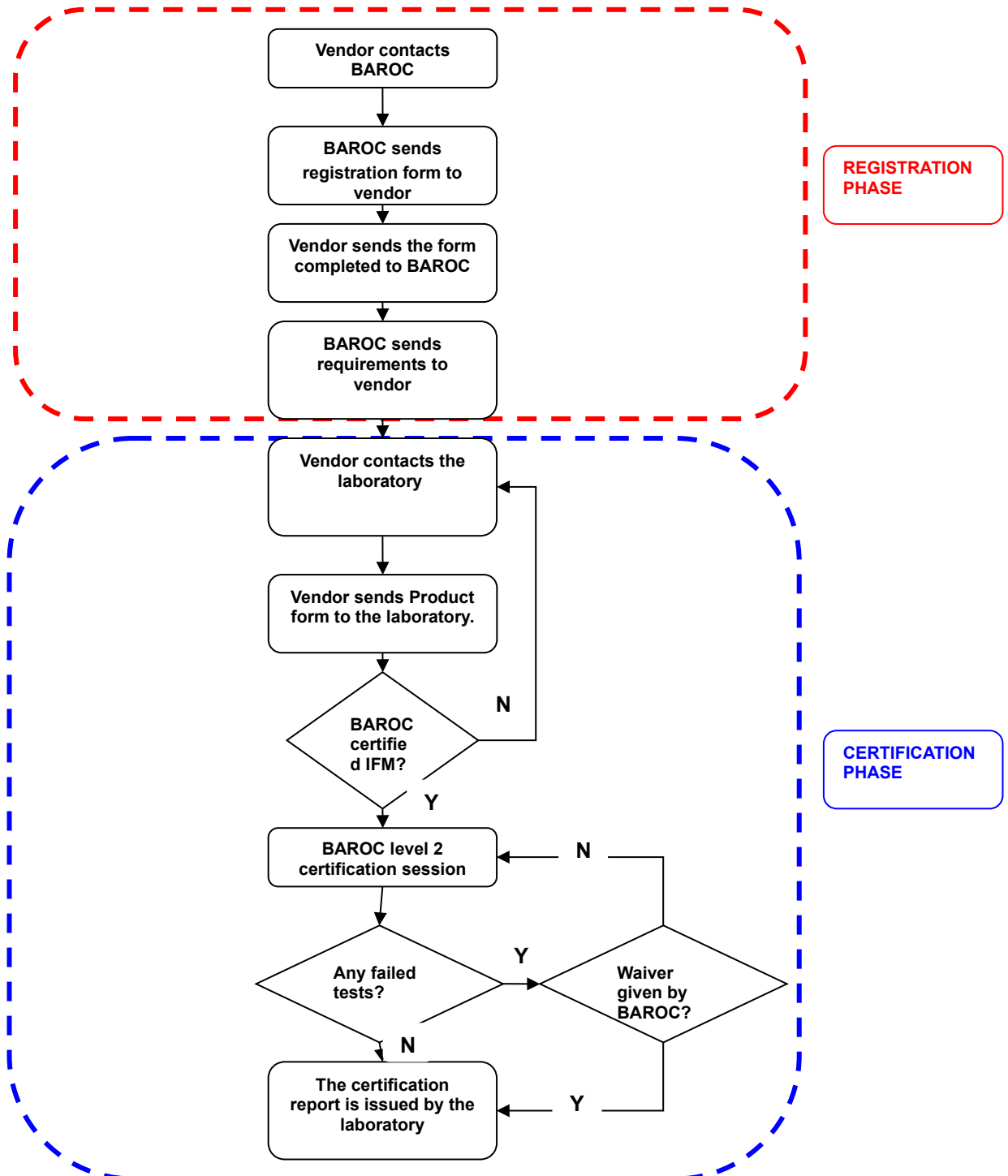
The BAROC level 2 certification administrative process is detailed in the Chapter 4 of the present document.

 A BAROC level 1 certified IFM is mandatory in order to perform the BAROC level 2 certification.



### 3. BAROC certification process: Level 1

#### 3.1. BAROC Level1 certification procedure .3. Certification flowchart





#### **.4. Registration Phase**

Prior to applying for BAROC level 1 certification, Vendor shall enter into a registration phase. The registration is applicable for all Products applied for BAROC Level 1 certification afterward and Vendor does not need register again for new product certification unless requested by BAROC (i.e change in the certification scheme, modification of BAROC requirements...).

In order to complete the registration phase, the vendor shall enter the following process:


- 1) The vendor sends an e-mail to BAROC (contact: vicky@ba.org.tw) requesting a BAROC certification level 1.
- 2) BAROC sends a registration form to the vendor
- 3) The vendor shall fill in the form then send it to BAROC by e-mail.
- 4) Once the registration form is reviewed, BAROC sends the requirements and the test cases to the vendor.

-  For registration form sample, refer to appendix A1.
-  As EMV Level 1 certification is included in the BAROC certification, the vendor shall complete the EMV administrative in parallel.

#### **.5. Certification Phase**

##### **Pre-requisites**

Once the vendor is ready for certification, he shall contact the laboratory in charge (for contact details refer to section 3.2).

-  The administrative procedure between the Vendor and the Laboratory (i.e contract, payment of fees...) is out of the scope of the present document.


When applying for BAROC Level 1 certification, the Vendor shall submit the following materials to the Laboratory:

- 1 sample of the IFM to be certified.
- Related documents (user manual...)
- BAROC ICS for level 1
- EMV level 1 ICS
- Related documents for EMV level 1 certification.

-  See Appendix A2 for BAROC ICS level1.

##### **Protocol simulator**

In order to conduct the BAROC level 1 testing, the vendor shall provide the laboratory with a protocol software simulator.

-  See Appendix A3 for protocol communication to be implemented in the simulator.

##### **Certification**

Once the ICS is validated, the Laboratory will perform the tests in accordance with test cases specified by BAROC, and then provide the test result to BAROC and to the Vendor. Another report will be send to EMVCo at the same time.


**BAROC Approval Test Program administrative process**  
**3. BAROC certification process: Level 1**

If there is a FAIL, the Vendor shall correct it and perform a new certification session unless BAROC decide to give a waiver.  
BAROC will decide case by case to waive the fail test or not.

Note: The vendor shall not be present in the laboratory during the certification.

**Proof of certification**

Once the report is validated by BAROC, BAROC will send a level 1 certificate to the Vendor. This certificate is the proof that the Vendor's product meets the BAROC requirements. At the same time, the vendor contact and product details will be posted on BAROC website.

 The IFM provider shall inform the BAROC if the company name or address or both, as stated on the BAROC level 1 certificate and the BAROC website, no longer correspond to the actual name and address. Also changes to the name or address of the company acting as a producer of an approved IFM type for the IFM provider shall also be communicated to BAROC.

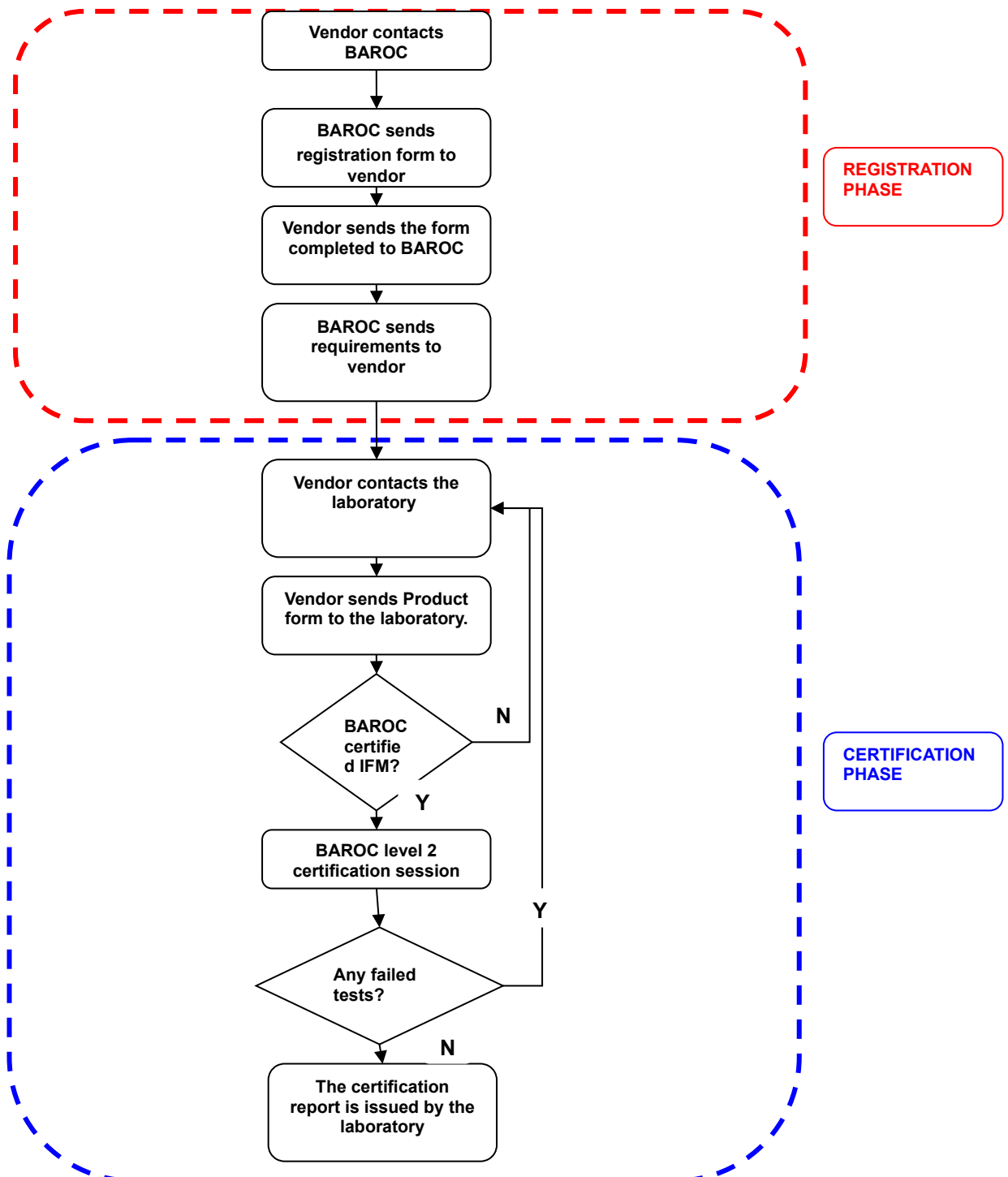
### **3.2. Fees**

The prices are based on one test cycle. If the test is to be repeated, the same fees are charged for each subsequent test cycle.  
Even when the test is suspended due to any issues, Test fees will not be reduced nor refunded.

## 4. BAROC certification process: Level 2

### 4.1. BAROC Level 2 certification procedure

#### .6. Certification flowchart




## **.7. Registration phase**

Prior to applying for BAROC level 2 certification, Vendor shall enter into a registration phase. The registration is applicable for all Products applied for BAROC Level 2 certification afterward and Vendor does not need register again for new product certification unless requested by BAROC (i.e change in the certification scheme, modification of BAROC requirements...).

In order to complete the registration phase, the vendor shall enter the following process:


- 1) The vendor sends an e-mail to BAROC (contact: vicky@ba.org.tw) requesting a BAROC certification level 2.
- 2) BAROC sends a registration form to the vendor
- 3) The vendor shall fill in the form then send it to BAROC by e-mail
- 4) Once the registration form is reviewed, BAROC sends the requirements and the test cases to the vendor

 For registration form sample, refer to appendix A1.

## **.8. Certification phase**

### **Pre-requisites**


Once the vendor is ready for certification, he shall contact the laboratory in charge (for contact details refer to section 4.2).

 The administrative procedure between the Vendor and the Laboratory (i.e contract, payment of fees...) is out of the scope of the present document.

When applying for BAROC Level 2 certification, the Vendor shall submit the following materials to the Laboratory:

- 1 sample of the product to be certified customized according the certification setting requirements
- Related documents (user manual...)
- BAROC ICS for level 2

 See Appendix A4 for BAROC ICS level2.

 See Appendix A5 for Terminal certification setting requirements

### **Certification**

Once the ICS is validated, the Laboratory will perform the tests in accordance with test cases specified by BAROC, and then provide the test result to BAROC and to the Vendor.

If there is a FAIL, the Vendor shall correct it and perform a new certification session. There is no possibility of waiver for BAROC Level 2 certification.

Note: The vendor shall not be present in the laboratory during the certification.

### **Proof of certification**

Once the report is validated by BAROC, BAROC will send a level 2 certificate to the Vendor. This certificate is the proof that the Vendor's product meets the BAROC requirements. At the same time, the vendor contact and product details will be posted on BAROC website.

**BAROC Approval Test Program administrative process**  
**4. BAROC certification process: Level 2**



The Application provider shall inform the BAROC if the company name or address or both, as stated on the BAROC level 2 certificate and the BAROC website, no longer correspond to the actual name and address.

## **4.2. Fees**

The prices are based on one test cycle. If the test is to be repeated, the same fees are charged for each subsequent test cycle.  
Even when the test is suspended due to any issues, Test fees will not be reduced nor refunded.

## **5. Laboratory Evaluation and Accreditation procedure**

### **5.1. Laboratory requirements**

Parties interested in doing BAROC ATM certification are invited to apply for accreditation according to the BAROC approval scheme. In order to receive an accreditation, it has to be proven to BAROC that laboratories are capable of doing such evaluations according to international standards and that they have the necessary project experience in the chip card and device certification business.

Laboratories doing BAROC ATM certification have to work according to internationally established procedures for test laboratories. This requirement is to make sure that testing procedures and test documentation are reliably performed according to the standards for which the laboratory is accredited. Measurement tools and evaluators' knowledge have to reflect the state of the art in the chip card technologies and ATM financial transaction.

### **5.2. Accreditation procedure**

Laboratories interested in becoming listed as BAROC ATM certification lab within the BAROC approval scheme can apply for this at the BAROC approval office.

1. Lab applicants have to state their interest becoming accredited with a completed application form to BAROC and the documents described in Appendix A6.
2. BAROC will answer to an application with a registration note and request further evidence on some or all of the above topics when needed.
3. BAROC can require an on-site audit of the lab applicant's premises, its personnel, testing equipment, working procedures and manuals, in support of its evaluation of the documents.
4. When BAROC reaches the decision that the lab applicant is capable of carrying out ATM certification according to its approval scheme, the accreditation is granted in a formal letter together with the current version of the BAROC requirements for ATM (Level 1 and Level 2) and the BAROC Test Cases (Level 1 and Level 2)
5. The accreditation is granted for 2 years. After this period, the laboratory has to apply for a prolongation which is granted without further consideration when at least one evaluation has been performed during the accreditation period. The accreditation can be withdrawn when the laboratory did not actively perform evaluations during the accreditation period.

Laboratories have to regularly report on their evaluation experiences.  
BAROC reserves the right to withdraw an accreditation when there is evidence that the laboratory no longer fulfils the requirements stated above.

At the end of the BAROC accreditation procedure, the contact details of the accredited lab will be posted on the BAROC website.

***BAROC Approval Test Program administrative process***  
***5. Laboratory Evaluation and Accreditation procedure***

**5.3. Fees**

No accreditation fee will be charged excluding travel expenses for audit if required.

BAROC will charge NT\$10,000.00 (including tax) of authorization management fee for each application case.



## Appendix A: Forms

### Appendix A1: Registration Form

| BAROC Registration Form               |  |
|---------------------------------------|--|
| Company Legal name                    |  |
| Country                               |  |
| Address of the registered office      |  |
| <b><u>Company Contact details</u></b> |  |
| Contact name                          |  |
| Title of the contact                  |  |
| E-mail                                |  |
| Telephone number                      |  |
| FAX number                            |  |
|                                       |  |
| Signature                             |  |
| Date                                  |  |

## Appendix A2: ICS for Level 1

| BAROC Registration Form                           |  |
|---|--|
| Company Legal name                                |  |
| Country   |  |
| Address   |  |
| Postal/ZIP code                                   |  |
| <b><u>Company Contact details</u></b>             |  |
| Contact name                                      |  |
| Title of the contact                              |  |
| E-mail  |  |
| Telephone number                                  |  |
| FAX number  |  |
| <b><u>Product details</u></b>                     |  |
| Product name                                      |  |
| Product version                                   |  |
| Firmware name                                     |  |
| Firmware version                                  |  |
| Supported voltage(s)                              |  |
| Supported protocol                                |  |
| <b><u>Vendor Comments</u></b>                     |  |
| Name<br><br>Signature<br><br>Position<br><br>Date |  |

## **Appendix A3: Communication flow for protocol simulator**

**ATR T=1:** 3F E0 00 1E 81 31 10 05 5B

**ATR T=0:** 3B 60 00 00

**ATM:** Select PSE→ 00 A4 04 00 0E 31 50 41 - 59 2E 53 59 53 2E 44 44 46 30 31 00

**Tool:** Answer to Select PSE→ 6A82

**ATM:** Select AID (BAROC)→ 00 A4 04 00 08 A0 00 00 01 72 95 00 01 00

**Tool:** Answer to Select AID (BAROC)→ **6F** 16 **84** 08 A0 00 00 01 72 95 00 01 **A5** 0A  
**50** 09 46 49 53 43 44 45 42 49 54 **90 00**

**ATM:** Select AID (Other)→ 00 A4 04 00 07 A0 00 00 00 04 10 10 00

**Tool:** Answer to Select AID (Other)→ 6A82

**ATM:** Verify PIN→00 20 00 10 08 24 43 15 FF FF FF FF FF

**Tool:** Answer to Verify PIN →9000

**ATM:** Select EF→00 A4 02 00 02 10 01

**Tool:** Answer to Select EF→ 9000

**ATM:** Read All Record→00 B2 01 05 00

**Tool:** Answer to Read All Record→

**01** 08 34 36 31 30 30 30 30 30

**02** 1E B4 B9 A4 F9 AA F7 BF C4 A5 64 B4 FA B8 D5 A5 64 30 30 31 20 20 20 20 20  
20 20 20 20 20 20

**03** 10 30 31 30 32 30 33 30 34 30 35 30 36 30 37 30 38

**04** 10 32 32 32 32 32 32 32 32 32 32 32 32 32 32 32 32

**05** 10 33 33 33 33 33 33 33 33 33 33 33 33 33 33 33 33

**06** 10 34 34 34 34 34 34 34 34 34 34 34 34 34 34 34 34

**07** 10 30 30 30 30 30 30 30 30 30 30 30 30 30 30 30 30

**08** 10 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36 36

**09** 10 37 37 37 37 37 37 37 37 37 37 37 37 37 37 37 37

**0A** 10 30 30 38 38 38 38 38 38 38 38 38 38 38 38 38 38

9000

## Appendix A4: ICS for Level 2

| BAROC Registration Form                           |  |
|---|--|
| Company Legal name                                |  |
| Country   |  |
| Address   |  |
| Postal/ZIP code                                   |  |
| <b><u>Company Contact details</u></b>             |  |
| Contact name                                      |  |
| Title of the contact                              |  |
| E-mail  |  |
| Telephone number                                  |  |
| FAX number  |  |
| <b><u>Product details</u></b>                     |  |
| Product name                                      |  |
| Product version                                   |  |
| Software name                                     |  |
| Software version                                  |  |
| IFM product name                                  |  |
| <b><u>Application supported</u></b>               |  |
| Application 1                                     |  |
| Application 2                                     |  |
| Application 3                                     |  |
| Application 4                                     |  |
| Application 5                                     |  |
| Application 6                                     |  |
| <b><u>Vendor Comments</u></b>                     |  |
|   |  |
| Name<br><br>Signature<br><br>Position<br><br>Date |  |

## **Appendix A5: Terminal certification setting**

In order to perform the BAROC functional certification, the ATM shall be configured as indicated below:

| <b>Application Selection methods</b>                 |  |
|--|--|
| PSE  | Mandatory                                  |
| List of AID  | Mandatory                                  |
| Direct selection                                     | Mandatory                                  |
| <b>List of supported AID</b>                         |  |
| BAROC  | A0 00 00 01 72 95 00 01 (1 <sup>st</sup> ) |
| MasterCard   | A0 00 00 00 04 10 10 (2 <sup>nd</sup> )    |
| Maestro  | A0 00 00 00 04 30 60 (3 <sup>rd</sup> )    |
| VISA   | A0 00 00 00 03 10 10 (4 <sup>th</sup> )    |
| JCB  | A0 00 00 00 65 10 10 (5 <sup>th</sup> )    |
| <b>List of supported BAROC application functions</b> |  |
| Function 01  | Balance Inquiry                            |
| Function 02  | Withdraw                                   |
| Function 03  | Fund transfer                              |
| Function 04  | Bill Payment                               |

Note 1: MasterCard, Maestro, VISA and JCB applications are not checked during the BAROC certification. So, the specific parameters needed to perform such a transactions are not indicated in the present document.

Note 2: For BAROC application customization details, please refer to BAROC specifications.

**Appendix A6: Application form for BAROC ATM certification laboratories**

|   |  |
|---|--|
| <b>Name of the applicant</b>                    | Organisation and department name   |
| <b>Organisational affiliation</b>               | Legal status of organisation   |
| <b>Contact person</b>                           | Name   |
| <b>Address</b>                                  | Street   |
|   | Zip code   |
|   | Town   |
|   | Country  |
|   | Phone  |
|   | Email  |
| <b>Accreditations already received</b>          | List of accreditations the laboratory received from other organisations (e.g. other payment scheme approval offices) |
| <b>Certification already conducted</b>          | List of certification already conducted.   |
| <b>Signature of applicant</b>                   | Place, date and signature  |
| <b>Documents provided with this application</b> | Laboratory description, Other accreditation certificate, Full reports on former chip card device certification.      |