**PRD IR.60**

# Title Prepaid Service Roaming Test Template

**Version** **3.0.0**
**Date** **June 2003**

**GSM Association Classifications**

**Non-Binding**

**Non-Core**

| **Security Classification Category:** | |
|---|---|
| **Unrestricted - Industry** | **X** |

| **Information Category** | Roaming – Technical |
|---|---|

| Document History | | |
|---|---|---|
| **Revision** | **Date** | **Brief Description** |
| 1.0.0 | 12.09.2001 | First draft of Prepaid service Roaming test template |
| 2.0.0 | 19.03.2002 | IREG approved document. |
| 3.0.0 | 9th June, 2003 | Approved by EMC |

# Table of Contents

# 1. Purpose of this Test Template

This template shall ease future inter operator tests of prepaid services. The test overview with tick boxes allows a quick assessment of the required effort. The template shall indicate, which tests IREG CAMEL WP deems useful for inter-operator tests with focus on interoperability, but not on specific service features, e.g. tariffs.

This test template is intended for prepaid roaming tests with different roaming partners. Initial roaming tests may involve checking of tariffs and other more application specific features, but should be carried out on special bilateral agreements.

It is left to the VPLMN tester to check the VLR /SGSN contents for the roaming subscriber. The HPLMN provides a profile of the SIM cards. However, there is no explicit test on location update.

Testing of account Top-Up and enquiry methods using USSD, SMS, and IVR is included in this document. Other methods that are based on WAP or internet access are not seen as specifically related to prepaid roaming and therefore out of scope of this document.

# 2. PrePaid Service Method

In the following table the HPLMN should indicate its prepaid roaming solution. HPLMN may give details about the solution in the Annex A.

| | **PrePaid Service Method** |
|---|---|
| ☐ | CAMEL phase 1 |
| ☐ | CAMEL phase 1 with Rerouting to the HPLMN |
| ☐ | CAMEL phase 2 |
| ☐ | CAMEL phase 3 for GPRS |
| ☐ | CAMEL phase 3 for SMS |
| ☐ | CAMEL phase 3 for Circuit Switched |
| ☐ | USSD Call Back |
| ☐ | SMS Call Back |

# 3. Requested Test-cases

In the following table the HPLMN should indicate the test cases that are requested to be performed by the roaming partner (VPLMN).

| | **Requested Test-case** | **Remark** |
|---|---|---|
| | GSM Test Cases | |
| ☐ | 6.1 Account Top-Up via IVR | |
| ☐ | 6.2 Account Top-Up via USSD | |
| ☐ | 6.3 Account Top-Up via SMS | |
| ☐ | 6.4 Account Enquiry via IVR | |
| ☐ | 6.5 Account Enquiry via USSD | |

| | | |
|---|---|---|
| ☐ | 6.6 Account Enquiry via SMS | |
| ☐ | 6.7.1 SMS MO supported | |
| ☐ | 6.7.2 SMS MO barred by HPLMN | |
| ☐ | 6.8 SMS MT | This test case shall only be requested if SMS MT charging is applied |
| ☐ | **6.9.1 MOC supported** | Table with limited number of destinations to be called (6) within this test page. |
| ☐ | 6.9.2 MOC barred by HPLMN | |
| ☐ | 6.10 Call setup using Call-back solution | Table with limited number of destinations to be called (6) within this test page. |
| ☐ | 6.11 CS-WAP Access | |
| ☐ | 6.12 MTC | |
| ☐ | 6.13 Call Forwarding on Busy (CFB) | |
| ☐ | 6.14 CFNRc (No paging response) | |
| ☐ | 6.15 Call Forwarding No Reply (CFNRy) | |
| ☐ | 6.16 EMC (VPLMN) | |
| ☐ | 6.17 MOC: Account depleted | |
| ☐ | 6.18 Insufficient Balance MOC | |
| ☐ | 6.19 Insufficient Balance SMS MO | |
| | | |
| | GPRS Test Cases | |
| ☐ | 7.1 GPRS WAP Access | |
| ☐ | 7.2 GPRS Access to a specific application | |
| ☐ | 7.3 GPRS: Account depleted | |
| ☐ | 7.4 GPRS Insufficient balance | |
| ☐ | 7.5 GPRS SMS MO supported | |
| ☐ | 7.6 Insufficient Balance GPRS SMS MO | |

# 4. Pre-Testing Data Exchange

It is necessary for the two PLMNs to have exchanged the Pre-Testing data defined in this section prior to the commencement of testing.

## 4.1. Testing Contact Information

The following information should be exchanged by both PLMNs:
Test co-ordination contact names, telephone numbers, fax numbers and e-mail addresses.

## 4.2. PLMN addressing, numbering and routing data

Confirmation of the PLMN addressing numbering and routing data as referenced in the Stage 3 [IREG PRD IR23], is regarded as advisable. Such information includes:

- E212-E214 translation.
- MSC/VLR and HLR E164 addresses.
- MSRN number ranges.
- International Signalling Point Codes (if applicable)

These data are provided by IREG PRD IR21.

Additionally, the exchange of SCP-GT ranges is regarded as advisable.

## 4.3. SIM associated data

The following information as stored in the SIM and/or HLR is required individually for each of the SIM cards:

(a) PIN, PUK
(b) IMSI
(c) MSISDN
(d) Basic Service Subscription Information
(e) Initial Supplementary Service Configuration Information
(f) Optional: O/T-CAMEL Subscription Information (triggerDetectionPoint, serviceKey, gsmSCF-Address and defaultCallHandling)

# 5. Prepaid Test Template

**IREG Prepaid Test Results for Mobile Stations of PLMN(a)
Roaming to PLMN(b) when using Prepaid Test Template for inter-PLMN Roaming**

## 5.1. Network Operator Information

HPLMN (a) ..….....

VPLMN (b) ….....

Date of Tests ….....

Testing personnel PLMN(b) .....
Tel/Fax: .....

SCP Manufacturer(s) .....
SCP Software Build Level(s) .....
SCP Global Title(s) .....

Version of test application.....

HLR Manufacturer(s) .....
HLR Software Build Level(s) .....
HLR Global Title(s) .....

SMSC Manufacturer(s) .....
SMSC Software Build Level(s) .....
SMSC Global Title(s) .....

VMSC/VLR Manufacturer(s) .....
VMSC/VLR Software Build Level(s) .....
VMSC/VLR Global Title(s) .....

SSP Manufacturer(s) .....
SSP Software Build Level(s) .....
SSP Global Title(s) .....
TAP records resulting from the tests will be produced and transferred to the HPLMN [✓=Yes/X=No].....

Comments:

### 5.2. General hints for the HPLMN operator

Some test cases need to be completed with HPLMN specific information before sending. Please use the section "Operator specific hints" within the test cases for this purpose. For some test cases it may be useful to check the balance after testing. It is up to the HPLMN operator to decide for each test case if a balance check should be performed. Please indicate in the next section the method to be used for these balance checks.

In case a call-back solution is to be tested the procedure to set up calls is described in test case 6.10. Some other test cases require to set up calls, e.g. test case 6.16 and 6.17. For these test cases please add a remark in the section "Operator specific hints" that the procedure described in test case 6.10 should be used to set up the call.

### 5.3. General hints for testing personnel

For balance check as part of test cases the procedure which is specified in test case number *<test case number to be provided from HPLMN>* shall be used.

# 6. GSM Test Cases

## 6.1. Account Top-Up via IVR

| | |
|---|---|
| Standard Test purpose | Access an Interactive Voice Response Unit to Top-Up the account by placing a mobile originated call in the VPLMN using a PrePaid Card.<br>The balance should have increased after topping up. |
| Operator specific hints: | ***<Please enter specific instructions here>***<br>***<Please enter the IVR number in line TestProcedure.(b)>***<br>***<In case a call back method shall be used to set up the call please add here: "For call set up please use the procedure described in test case 6.10">*** |
| Test Procedure | |
| | **(a) MSISDN of originating MS: *<MSISDN>*** |
| | ***(o1) Balance check using default procedure <__,__>*** |
| | **(b) Number keyed into MS *<IVR number>*** |
| | **(c) Time of start of call: *<hh.mm.ss>*** |
| | **(d) Time of start of announcement: *<hh.mm.ss>*** |
| | ***(o2) If the call is successful you will listen to the balance announcement.***<br>***<Please enter specific instructions here>*** |
| | **(e) Account Balance: <___,___>** |
| | ***(o3) Add credit on the account . <Please enter specific instructions here>*** |
| | **(f) New Account Balance: <___,___>** |
| | **(g) Time of end of call: *<hh.mm.ss>*** |
| Expected Behaviour | **(h) The account has increased.** |
| Test Result | **(i) Testcase Result [Pass/Fail/Not Performed]:** |

**Name of Tester, if different from front page:.....**
**Date ……..**

### 6.2. Account Top-Up via USSD

| | |
|---|---|
| Standard Test purpose | Top-Up the account via USSD by sending a USSD Message using a PrePaid Card. The balance should have increased after topping up. |
| Operator specific hints: | ***<Please enter specific instructions here>***<br>***<Please enter the USSD Service Code with parameters in line TestProcedure.(b)>*** |
| Test Procedure | |
| | **(a) MSISDN of originating MS: *<MSISDN>*** |
| | ***(o1) Balance check using default procedure <__,__>*** |
| | **(b) Number keyed into MS: *<USSD Service Code with parameters>*** |
| | **(c) Time of start of call(i.e. SEND key operation): *<hh.mm.ss>*** |
| | **(d) Delay between SEND key operation at MS and USSD reception:**<br>**<ss>** |
| | **(e) USSD message received: < *string*>** |
| | ***(o2) Balance check (may not be necessary if balance is part of the USSD Response)*** |
| | ***(o3) < Expected Response of the Service>*** |
| Expected Behaviour | **(g) Topping-up the account and display the increased balance on MS** |
| Test Result | **(h) Testcase Result [Pass/Fail/Not Performed]:** |

Name of Tester, if different from front page:.....
**Date ……..**

### 6.3. Account Top-Up via SMS

| | |
|---|---|
| Standard Test purpose | Top-Up the account via SMS by sending a SMS Message using a PrePaid Card. The balance should have increased after topping up. |
| Operator specific hints: | ***<Please enter specific instructions here for example E164 address of HPLMN SMSC: >***<br>***<Please enter:***<br>**** SMS Top-Up content in line TestProcedure.(b)***<br>**** SMS Top-Up Destination in line TestProcedure.(c)>*** |
| Test Procedure | |
| | **(a) MSISDN of originating MS: *<MSISDN>*** |
| | ***(o1) Balance check using default procedure <__,__>*** |
| | **(b) Generate SMS to Top-Up : *<SMS Top-Up content>*** |
| | **(c) MS sends the Top-Up SMS to: *<SMS Top-Up Destination>*** |
| | **(d) Time of start of SMS (i.e. SEND key operation): *<hh.mm.ss>*** |
| | ***(o2) < Expected Response of the Service>*** |
| | **(e) Check Balance of MS: < ___,___>** |
| Expected Behaviour | **(f) Service Centre successfully receives the SMS.**<br>**(g) The account has increased.** |
| Test Result | **(h) Test case Result [Pass/Fail/Not Performed]:** |

**Name of Tester, if different from front page:.....**
**Date ……..…**

### 6.4. Account Enquiry via IVR

| | |
|---|---|
| Standard Test purpose | Access an Interactive Voice Response Unit by placing a mobile originated call in the VPLMN using the PrePaid Card and query the current account balance. The current account balance is announced. |
| Operator specific hints: | ***<Please enter specific instructions here>***<br>***<Please enter the IVR number in line TestProcedure.(b)>***<br>***<In case a call back method shall be used to set up the call please add here: "For call set up please use the procedure described in test case 6.10">*** |
| Test Procedure | |
| | **(a) MSISDN of originating MS: *<MSISDN>*** |
| | ***(o1) Balance check using default procedure <__,__>*** |
| | **(b) Number keyed into MS: *< IVR Number>*** |
| | **(c) Time of start of call: *<hh.mm.ss>*** |
| | **(d) Time of start of announcement: *<hh.mm.ss>*** |
| | ***(o2) If the call is successful you will listen to the balance announcement.***<br>***<Please enter specific instructions here>.*** |
| | **(e) Account Balance <___,___>** |
| | **(f) Time of end of call: *<hh.mm.ss>*** |
| Expected Behaviour | **(g) Account Balance is announced.** |
| Test Result | **(h) Test case Result [Pass/Fail/Not Performed]** |

**Name of Tester, if different from front page:.....**
**Date ……..**

### 6.5. Account Enquiry via USSD

| | |
|---|---|
| Standard Test purpose | Query the current account balance via USSD. The current account balance is displayed on the MS. |
| Operator specific hints: | ***<Please enter specific instructions here>***<br>***<Please enter the USSD Service Code with parameters in line TestProcedure.(b)>*** |
| Test Procedure | |
| | **(a) MSISDN of originating MS: *<MSISDN>*** |
| | ***(o1) Balance check using default procedure <__,__>*** |
| | **(b) Number keyed into MS: *<USSD Service Code with parameters>*** |
| | **(c) Time of start of call(i.e. SEND key operation): *<hh.mm.ss>*** |
| | **(d) Delay between SEND key operation at MS and USSD reception: <ss>** |
| | **(e) USSD message received: <string>** |
| | ***(o2) < Expected response of the Service>*** |
| Expected Behaviour | **(f) The Balance is displayed on the MS** |
| Test Result | **(g) Test case Result [Pass/Fail/Not Performed]:** |

**Name of Tester, if different from front page:.....**
Date ……..….

### 6.6. Account Enquiry via SMS

| | |
|---|---|
| Standard Test purpose | Query the current account balance via SMS. The current account balance is received in a SMS. |
| Operator specific hints: | ***<Please enter specific instructions here for example E164 address of HPLMN SMSC: >***<br>***<Please enter:***<br>**** SMS enquiry content in line TestProcedure.(b)***<br>**** SMS enquiry destination in line TestProcedure.(c)>*** |
| Test Procedure | |
| | **(a) MSISDN of originating MS: *<MSISDN>*** |
| | ***(o1) Balance check using default procedure <__,__>*** |
| | **(b) Generate SMS with content: *< SMS enquiry content>*** |
| | **(c) Send SMS to: *< SMS enquiry destination>*** |
| | **(d) Time of start of SMS (i.e. SEND key operation): *<hh.mm.ss>*** |
| | **(e) Delay between SEND key operation at MS and reception: <ss>** |
| | ***(o2) <Expected response of the service>*** |
| | **(f) Current Balance of MS: < ___,___>** |
| Expected Behaviour | **(g) Service Centre successfully receives the SMS.**<br>**(h) MS receives a SMS with the current balance.** |
| Test Result | **(i) Test case Result [Pass/Fail/Not Performed]:** |

**Name of Tester, if different from front page:.....**
**Date ……**

## 6.7. SMS MO

### 6.7.1. SMS MO supported

| | |
|---|---|
| Standard Test purpose | Check that prepaid subscriber is allowed to send SMS MO. |
| Operator specific hints: | ***<Please enter specific instructions here for example E164 address of HPLMN SMSC: >*** |
| Test Procedure | |
| | **(a) MSISDN of originating MS: *<MSISDN>*** |
| | ***(o1) Balance check using default procedure <__,__>*** |
| | **(b) MS sends an SMS to: *<VPLMN MSISDN of the tester>*** |
| | **(c) Time of start of SMS (i.e. SEND key operation): *<hh.mm.ss>*** |
| | **(d) Check Balance of MS: < ___,___>** |
| Expected Behaviour | **(e) MS of the tester successfully receives the SMS.**<br>**(f) MS is successfully charged.** |
| Test Result | **(g) Test case Result [Pass/Fail/Not Performed]:** |

**Name of Tester, if different from front page:.....**
**Date ……**

### 6.7.2. SMS MO barred by HPLMN

| | |
|---|---|
| Standard Test purpose | Check that sending of SMS MO is barred for prepaid subscriber. |
| Operator specific hints: | ***<Please enter specific instructions here for example E164 address of HPLMN SMSC: >***<br>***<Please enter the minimum account balance for this test in line TestProcedure.(b)>*** |
| Test Procedure | |
| | **(a) MSISDN of originating MS: *<MSISDN>*** |
| | ***(o1) Balance check using default procedure <__,__>*** |
| | **(b) Make sure that the account balance exceeds < ___,___> before proceeding with the test case** |
| | **(c) MS sends an SMS to: *<VPLMN MSISDN of the tester>*** |
| Expected Behaviour | **(d) Transmission of SMS MO is rejected.** |

| | |
|---|---|
| Test Result | **(e) Test case Result [Pass/Fail/Not Performed]:** |

**Name of Tester, if different from front page:.....**
**Date ……..…**

### 6.8. SMS MT

| | |
|---|---|
| Standard Test purpose | Check that prepaid subscriber is allowed to receive a SMS. |
| Operator specific hints: | ***<Please enter specific instructions here for example E164 address of HPLMN SMSC: >***<br>***<This test case should only be requested in case prepaid subscriber is charged for SMS MT. Otherwise this test does not have any specific impact on prepaid roaming.>*** |
| Test Procedure | |
| | **(a) MSISDN of originating MS1: *<MSISDN of a postpaid SIM of HPLMN>*** |
| | **(b) MSISDN of receiving MS2: < *MSISDN of a prepaid SIM of HPLMN>*** |
| | ***(o1) Balance check of MS2 using default procedure <__,__>*** |
| | **(c) MS1 sends an SMS to MS2** |
| | **(d) Time of start of SMS (i.e. SEND key operation): *<hh.mm.ss>*** |
| | **(e) Time of receipt of SMS at MS2: *<hh.mm.ss>*** |
| | ***(o2) Balance check of MS2 using default procedure <__,__>*** |
| Expected Behaviour | **(f) The SMS was received correctly and the account is modified appropriate.** |
| Test Result | **(g) Test case Result [Pass/Fail/Not Performed]:** |

**Name of Tester, if different from front page:.....**
**Date ……**

## 6.9. MOC

### 6.9.1. MOC supported

| Standard Test purpose | | Check that prepaid subscriber can set up calls to the numbers listed below. | | | |
|---|---|---|---|---|---|
| Operator specific hints: | | ***<Please enter specific instructions here>*** | | | |
| Test Procedure | | | | | |
| | | **(a) MSISDN of originating MS: *<MSISDN>*** | | | |
| **Dialled number** | **Balance before** | **Start of call <hh.mm.ss>** | **Chargeable duration (recommended minimum)** | **Balance after** | **Test Result** |
| | | | **<ss> (10 sec)** | | |
| | | | **<ss> (10 sec)** | | |
| | | | **<ss> (10 sec)** | | |
| | | | **<ss> (10 sec)** | | |
| | | | **<ss> (10 sec)** | | |
| | | | **<ss> (10 sec)** | | |
| Expected Behaviour | | **The call is connected successfully.** | | | |

**Name of Tester, if different from front page:.....**
Date ……..….

| **Proposal for dialled number:** | **1: VPLMN Number**<br>**2: HPLMN Number**<br>**3: Voice Mail**<br>**4: specially important short code**<br>**5: free phone number**<br>**6:** |
|---|---|

### 6.9.2. MOC barred by HPLMN

| | |
|---|---|
| Standard Test purpose | Check that prepaid subscriber can not set up a MOC (without using a call back solution). |
| Operator specific hints: | ***<Please enter specific instructions here>***<br>***<Please enter the minimum account balance for this test in line TestProcedure.(b)>***<br>***<Please enter the number to be dialled in line TestProcedure.(c)>*** |
| Test Procedure | |
| | **(a) MSISDN of originating MS: *<MSISDN>*** |
| | ***(o1) Balance check using default procedure <__,__>*** |
| | **(b) Make sure that the balance exceeds < ___,___> before proceeding with the test case.** |
| | **(c) Number to be dialled: *<Number to be dialled e.g. Automatic answering circuit or IVR>*** |
| Expected Behaviour | **(d) MS is not able to make a call. (exact behaviour depends on the release cause handling in the VPLMN)** |
| Test Result | **(e) Test case Result [Pass/Fail/Not Performed]:** |

**Name of Tester, if different from front page:.....**
**Date ……..**

### 6.10. Call setup using Call-back solution

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Standard Test purpose | | Check prepaid subscriber can call the numbers listed below using a call-back solution. | | | | | |
| Operator specific hints: | | ***<Please enter specific instructions here>*** ***<Please enter the string/message contents to be sent in column one below.>*** | | | | | |
| Test Procedure | | | | | | | |
| | | **(a) MSISDN of originating MS: *<MSISDN>*** | | | | | |
| USSD STRING / SMS CONTENTS | **Balance before** | **Time of sending <hh.mm.ss>** | **Time of receiving call back <hh.mm.ss>** | **Time of B party alert <hh.mm.ss>** | **Chargeable duration (recommended minimum)** | **Balance after** | **Test Result [Pass/Fail/ Not Performed]** |
| | | | | | <ss> (10 sec) | | |
| | | | | | <ss> (10 sec) | | |
| | | | | | **<ss> (10 sec)** | | |
| | | | | | **<ss> (10 sec)** | | |
| | | | | | **<ss> (10 sec)** | | |
| | | | | | **<ss> (10 sec)** | | |
| Expected Behaviour | | **The call was connected successfully.** | | | | | |

**Name of Tester, if different from front page:.....**
**Date ……..**

| | |
|---|---|
| **Proposal for dialled numbers:** | **1: VPLMN Number**<br>**2: HPLMN Number**<br>**3: Voice Mail**<br>**4: specially important short code**<br>**5: free phone number**<br>**6:** |

### 6.11. CS-WAP Access

| | |
|---|---|
| Standard Test purpose | Access a WAP Gateway using a PrePaid Card to verify the possibility to use the WAP service during roaming. |
| Operator specific hints: | ***<In case a call back method shall be used to set up the call please add here: "For call set up please use the procedure described in test case 6.10">***<br>***<Please enter specific instructions here>***<br>**The following data should be used to configure the handset before the test:**<br>**Home page URL:** ***<Home page URL>***<br>**Dial-up number:** ***<Dial-up number>***<br>**IP-address:** ***<IP-address>***<br>**Port number:** ***<Port number>***<br>**User name:** ***<User name>***<br>**Password:** ***<Password>***<br>**Authentication:** ***<Authentication, e.g. Normal>***<br>**Connection type:** ***<Connection type, e.g. Continuous>***<br>**Connection security:** ***<Connection security, e.g. Off>***<br>**Bearer:** ***Data***<br>**Data call type:** ***<Data call type, e.g. ISDN>***<br>**Data call speed:** ***<Data call speed, e.g. 9600>*** |
| Test Procedure | |
| | **(a) MSISDN of originating MS: *<MSISDN>*** |
| | ***(o1) Balance check using default procedure <__,__>*** |
| | **(b) Configure hand set using data given in operator specific hints above** |
| | **(c) Set up WAP session** |
| | **(d) Time of start of session: *<hh.mm.ss>*** |
| | **(e) Time of appearance of first WAP page: *<hh.mm.ss>*** |
| | **(f) Time of end of session: *<hh.mm.ss>*** |
| | ***(o2) Balance check using default procedure <__,__>*** |
| Expected Behaviour | **(g) WAP page appears.** |
| Test Result | **(h) Test case Result [Pass/Fail/Not Performed]** |

**Name of Tester, if different from front page:.....**
**Date ……**

### 6.12. MTC

| | |
|---|---|
| Standard Test purpose | Check that prepaid subscriber is able to receive a call. |
| Operator specific hints: | ***<Please enter specific instructions here>*** |
| Test Procedure | |
| | **(a) MSISDN of originating MS1: *<MSISDN of a postpaid SIM of HPLMN>*** |
| | **(b) MSISDN of receiving MS2: *<MSISDN of a prepaid SIM of HPLMN>*** |
| | ***(o1) Balance check of MS2 using default procedure <__,__>*** |
| | **(c) MS1 calls MS2** |
| | **(d) Time of start of call: *<hh.mm.ss>*** |
| | **(e) Time of B party alert: *<hh.mm.ss>*** |
| | **(f) Call duration: <ss>** |
| | ***(o2) Balance check of MS2 using default procedure <__,__>*** |
| Expected Behaviour | **(g) The call was received correctly and the account balance has been reduced.** |
| Test Result | **(h) Test case Result [Pass/Fail/Not Performed]** |

**Name of Tester, if different from front page:.....**
**Date ……..**

### 6.13. Call Forwarding on Busy (CFB)

| | |
|---|---|
| Standard Test purpose | Check that prepaid subscriber is able to perform CFB. |
| Operator specific hints: | ***<Please enter specific instructions here>*** |
| Test Procedure | |
| | **(a) Activate CFB for the prepaid SIM (MS2) to the following destination (MS3):** ***<MSISDN of a postpaid SIM of HPLMN>*** |
| | **(b) MSISDN of originating MS1: *<MSISDN>*** |
| | **(c) MSISDN of prepaid SIM (MS2): *<MSISDN>*** |
| | ***(o1) Balance check of MS2 using default procedure <__,__>*** |
| | **(d) MS1 calls MS2.** |
| | **(e) Time of start of call (i.e. SEND key operation): <hh.mm.ss>** |
| | **(f) MS2 invokes user determined user busy as soon as the mobile rings** |
| | **(g) Time of alert at MS3: *<hh.mm.ss>*** |
| | **(h) MS3 accepts the call** |
| | **(i) Chargeable call duration: <ss>** |
| | ***(o2) Balance check of MS2 using default procedure <__,__>*** |
| Expected Behaviour | **(j) The call is successfully forwarded.**<br>**(k) MS2 is successfully charged.** |
| Test Result | **(l) Test case Result [Pass/Fail/Not Performed]:** |

**Name of Tester, if different from front page:.....**
**Date ……**

### 6.14. CFNRc (No paging response)

| | |
|---|---|
| Standard Test purpose | Check that prepaid subscriber is able to perform Call Forwarding Not Reachable (no paging response). |
| Operator specific hints: | ***<Please enter specific instructions here>*** |
| Test Procedure | |
| | **(a) Activate CFNRc for the prepaid SIM (MS2) to the following destination (MS3): *<MSISDN of a postpaid SIM of HPLMN>*** |
| | **(b) MSISDN of originating MS1: *<MSISDN>*** |
| | **(c) MSISDN of prepaid SIM (MS2): *<MSISDN>*** |
| | ***(o1) Balance check of MS2 using default procedure <__,__>*** |
| | **(d) Register MS2 and afterwards remove battery of MS2.** |
| | **(e) MS1 calls MS2.** |
| | **(f) Time of start of call (i.e. SEND key operation): <hh.mm.ss>** |
| | **(g) Time of alert at MS3: *<hh.mm.ss>*** |
| | **(h) MS3 accepts the call** |
| | **(i) Chargeable call duration: <ss>** |
| | ***(o2) Balance check of MS2 using default procedure <__,__>*** |
| Expected Behaviour | **(j) The call is successfully forwarded.**<br>**(k) MS2 is successfully charged.** |
| Test Result | **(l) Test case Result [Pass/Fail/Not Performed]:** |

**Name of Tester, if different from front page:.....**
Date ……..….

### 6.15. Call Forwarding No Reply (CFNRy)

| | |
|---|---|
| Standard Test purpose | Check that prepaid subscriber is able to perform CFNRy. |
| Operator specific hints: | ***<Please enter specific instructions here>*** |
| Test Procedure | |
| | **(a) Activate CFNRy for the prepaid SIM (MS2) to the following destination (MS3):** ***<MSISDN of a postpaid SIM of HPLMN>*** |
| | **(b) MSISDN of originating MS1: *<MSISDN>*** |
| | **(c) MSISDN of prepaid SIM (MS2): *<MSISDN>*** |
| | ***(o1) Balance check of MS2 using default procedure <__,__>*** |
| | **(d) MS1 calls MS2.** |
| | **(e) MS2 does not reply.** |
| | **(f) Time of start of call (i.e. SEND key operation): <hh.mm.ss>** |
| | **(g) Time of alert at MS3: *<hh.mm.ss>*** |
| | **(h) MS3 accepts the call** |
| | **(i) Chargeable call duration: <ss>** |
| | ***(o2) Balance check of MS2 using default procedure <__,__>*** |
| Expected Behaviour | **(j) The call is successfully forwarded.**<br>**(k) MS2 is successfully charged.** |
| Test Result | **(l) Test case Result [Pass/Fail/Not Performed]:** |

**Name of Tester, if different from front page:.....**
Date ……..….

### 6.16. EMC (VPLMN)

| | |
|---|---|
| Standard Test purpose | Check that prepaid subscriber can reach VPLMN specific emergency numbers. |
| Operator specific hints: | ***<Please enter specific instructions here>***<br>***<In case a call back method shall be used to set up the call please add here: "For call set up please use the procedure described in test case 6.10">*** |
| Test Procedure | |
| | **(a) MSISDN of originating MS: *<MSISDN>*** |
| | ***(o1) Balance check using default procedure <__,__>*** |
| | **(b) Tested numbers: <fill in VPLMN specific emergency numbers dialled>** |
| Expected Behaviour | **(c) VPLMN specific emergency numbers can be reached.** |
| Test Result | **(d) Test case Result [Pass/Fail/Not Performed] :** |
| Comment | **If the test case fails both operator may negotiate how to proceed with emergency calls.** |

**Name of Tester, if different from front page:.....**
**Date ……..**

### 6.17. MOC: Account depleted

| | |
|---|---|
| Standard Test purpose | Prepaid MOC terminated by SCP on depleted account |
| Operator specific hints: | ***<Please enter specific instructions here and contact person details>***<br>***<In case a call back method shall be tested this test case is not relevant because the control of the call is in the HPLMN.>*** |
| Test Procedure | |
| | **(a) MSISDN of originating MS: *<MSISDN>*** |
| | ***(o1) Balance check using default procedure <__,__>***<br>***Balance should be between<__,__> and <__,__>*** |
| | **(b) Number keyed into MS: <expensive local number>** |
| | **(c) Time of start of call (i.e. SEND key operation): <hh.mm.ss>** |
| | **(d) Time of perceived answer of call: <hh.mm.ss>** |
| | ***(o2) Check presence of warning tones/announcements*** |
| | **(e) Chargeable call duration: <ss>** |
| | ***(o3) Balance check using default procedure <__,__>*** |
| Expected Behaviour | **(f) Call should be disconnected on depleted account.** |
| Test Result | **(g) Test case Result [Pass/Fail/Not Performed]:** |
| Comments | **The HPLMN operator may offer a contact person to set the balance to an appropriate value to limit the call duration to less than 1 minute. The tester may skip the check of the call duration and the warning indications for calls lasting longer than one minute.** |

**Name of Tester, if different from front page:.....**
**Date ……..**

### 6.18. Insufficient Balance MOC

| | |
|---|---|
| Standard Test purpose | Check that MOC is blocked because of insufficient balance. |
| Operator specific hints: | ***<Please enter specific instructions here and contact person details>***<br>***<In case a call back method shall be tested this test case is not relevant because the control of the call is in the HPLMN.>*** |
| Test Procedure | |
| | **(a) MSISDN of originating MS: *<MSISDN>*** |
| | ***(o1) Balance check using default procedure <__,__>***<br>***Balance should be less than <__,__>*** |
| | **(b) Number keyed into MS: < number>** |
| | **(c) Time of start of call (i.e. SEND key operation): <hh.mm.ss>** |
| Expected Behaviour | **(d) Call set up is blocked due to insufficient balance** |
| Test Result | **(e) Test case Result [Pass/Fail/Not Performed]:** |
| Comments | THE OPERATOR MAY OFFER A CONTACT PERSON TO SET THE BALANCE TO AN APPROPRIATE VALUE. |

**Name of Tester, if different from front page:.....**
**Date ……..**

### 6.19. Insufficient Balance SMS MO

| | |
|---|---|
| Standard Test purpose | Check that SMS MO of prepaid subscriber is blocked because of insufficient balance. |
| Operator specific hints: | ***<Please enter specific instructions here for example E164 address of HPLMN SMSC: >*** |
| Test Procedure | |
| | **(a) MSISDN of originating MS: *<MSISDN>*** |
| | ***(o1) Balance check using default procedure <__,__>***<br>***Balance should be less than <__,__>*** |
| | **(b) MS sends an SMS to: *<VPLMN MSISDN of the tester>*** |
| Expected Behaviour | **(c) SMS is blocked due to insufficient balance.** |
| Test Result | **(d) Test case Result [Pass/Fail/Not Performed]:** |
| Comments | **The operator may offer a contact person to set the balance to an appropriate value.** |

**Name of Tester, if different from front page:.....**
**Date ……..**

# 7. GPRS Test Cases

## 7.1. GPRS WAP Access

| | |
|---|---|
| Standard Test purpose | Access a WAP Gateway via GPRS using a PrePaid card to verify the possibility to use the WAP service during roaming. |
| Operator specific hints: | ***<Please enter specific instructions here>***<br>**The following data should be used to configure the handset before the test:**<br><br>**Home page URL:** ***<Home page URL>***<br>**WAP-APN:** ***<WAP-APN>***<br>**IP-address:** ***<IP-address>***<br>**Port number:** ***<Port number>***<br>**User name:** ***<User name>***<br>**Password:** ***<Password>***<br>**Authentication:** ***<Authentication, e.g. Normal>***<br>**Connection type:** ***<Connection type, e.g. Continuous>***<br>**Connection security:** ***<Connection security, e.g. Off>***<br>**Bearer:** **GPRS** |
| Test Procedure | |
| | **(a) MSISDN of originating MS: *<MSISDN>*** |
| | ***(o1) Balance check using default procedure <__,__>*** |
| | **(b) Configure hand set using data given in operator specific hints above** |
| | **(c) Set up WAP session** |
| | **(d) Time of start of session: *<hh.mm.ss>*** |
| | **(e) Time of appearance of first WAP page: *<hh.mm.ss>*** |
| | **(f) Time of end of session: *<hh.mm.ss>*** |
| | ***(o2) data volume transmitted if the mobile reports <___>*** |
| | ***(o3) Balance check using default procedure <__,__>*** |
| Expected Behaviour | **(g) WAP page appears.** |
| Test Result | **(h) Test case Result [Pass/Fail/Not Performed]:** |

**Name of Tester, if different from front page:.....**
**Date ……**

### 7.2. GPRS Access to a specific application

| | |
|---|---|
| Standard Test purpose | Access via GPRS using a PrePaid card to verify the possibility to use a specific application during roaming. |
| Operator specific hints: | ***<Please enter specific instructions here and a description of the specific application to be used, e.g. ftp>***<br>**The following data should be used to configure the handset before the test:**<br><br>**Home page URL:** ***<Home page URL>***<br>**APN:** ***<APN>***<br>**IP-address:** ***<IP-address>***<br>**Port number:** ***<Port number>***<br>**User name:** ***<User name>***<br>**Password:** ***<Password>***<br>**Authentication:** ***<Authentication, e.g. Normal>***<br>**Connection type:** ***<Connection type, e.g. Continuous>***<br>**Connection security:** ***<Connection security, e.g. Off>***<br>**Bearer:** **GPRS** |
| Test Procedure | |
| | **(a) MSISDN of originating MS: < *MSISDN*>** |
| | ***(o1) Balance check using default procedure <__,__>*** |
| | **(b) Configure hand set using data given in operator specific hints above** |
| | **(c) Set up session** |
| | **(d) Execute application described above** |
| | **(e) Time of start of session: *<hh.mm.ss>*** |
| | **(f) Time of end of session: *<hh.mm.ss>*** |
| | ***(o2) data volume transmitted <_____>*** |
| | ***(o3) Balance check using default procedure <__,__>*** |
| Expected Behaviour | **(g) Application could be executed successfully.** |
| Test Result | **(h) Test case Result [Pass/Fail/Not Performed]:** |

**Name of Tester, if different from front page:.....**
Date ……..….

### 7.3. GPRS: Account depleted

| | |
|---|---|
| Standard Test purpose | Verify that the GPRS session is terminated by the network when the account is depleted. |
| Operator specific hints: | ***<Please enter specific instructions here and a description of the specific application to be used, e.g. ftp>***<br>**The following data should be used to configure the handset before the test:**<br><br>**Home page URL:** ***<Home page URL>***<br>**APN:** ***<APN>***<br>**IP-address:** ***<IP-address>***<br>**Port number:** ***<Port number>***<br>**User name:** ***<User name>***<br>**Password:** ***<Password>***<br>**Authentication:** ***<Authentication, e.g. Normal>***<br>**Connection type:** ***<Connection type, e.g. Continuous>***<br>**Connection security:** ***<Connection security, e.g. Off>***<br>**Bearer:** **GPRS** |
| Test Procedure | |
| | **(a) MSISDN of originating MS: < *MSISDN*>** |
| | ***(o1) Balance check using default procedure <__,__>***<br>***Balance should be between <__,__> and <__,__>*** |
| | **(b) Configure hand set using data given in operator specific hints above** |
| | **(c) Set up session** |
| | **(d) Execute application described above** |
| | **(e) Time of start of session: *<hh.mm.ss>*** |
| | **(f) Time when session is terminated by the network: *<hh.mm.ss>*** |
| | **(g) data volume transmitted <_____>** |
| | ***(o2) Balance check using default procedure <__,__>*** |
| Expected Behaviour | **(h) Session is terminated by the network.** |
| Test Result | **(i) Test case Result [Pass/Fail/Not Performed]** |
| Comments | **The operator may offer a contact person to set the balance to an appropriate value.** |

**Name of Tester, if different from front page:.....**
Date ……..….

### 7.4. GPRS Insufficient balance

| | |
|---|---|
| Standard Test purpose | Verify that the GPRS session is blocked by the network when the balance is insufficient. |
| Operator specific hints: | ***<Please enter specific instructions here and a description of the specific application to be used, e.g. ftp>***<br>**The following data should be used to configure the handset before the test:**<br><br>**Home page URL:** ***<Home page URL>***<br>**APN:** ***<APN>***<br>**IP-address:** ***<IP-address>***<br>**Port number:** ***<Port number>***<br>**User name:** ***<User name>***<br>**Password:** ***<Password>***<br>**Authentication:** ***<Authentication, e.g. Normal>***<br>**Connection type:** ***<Connection type, e.g. Continuous>***<br>**Connection security:** ***<Connection security, e.g. Off>***<br>**Bearer:** **GPRS** |
| Test Procedure | |
| | **(a) MSISDN of originating MS: <*MSISDN*>** |
| | ***(o1) Balance check using default procedure <__,__>***<br>***Balance should be less than < >*** |
| | **(b) Configure hand set using data given in operator specific hints above** |
| | **(c) Attempt to set up session** |
| | **(d) Time of session initiation attempt: <hh.mm.ss>** |
| Expected Behaviour | **(e) Session is blocked by the network.** |
| Test Result | **(f) Test case Result [Pass/Fail/Not Performed]** |
| Comments | **The operator may offer a contact person to set the balance to an appropriate value.** |

**Name of Tester, if different from front page:.....**
**Date ……**

### 7.5. GPRS SMS MO supported

| | |
|---|---|
| Standard Test purpose | Check that the GPRS SMS MO is delivered successfully. |
| Operator specific hints: | ***<Please enter specific instructions here for example E164 address of HPLMN SMSC: >*** |
| Test Procedure | |
| | **(a) MSISDN of originating MS: *<MSISDN>*** |
| | ***(o1) Balance check using default procedure <__,__>*** |
| | **(b) MS sends an SMS via GPRS to: <VPLMN *MSISDN of the tester*>** |
| | **(c) Time of start of SMS (i.e. SEND key operation): *<hh.mm.ss>*** |
| | ***(o2) Balance check using default procedure <__,__>*** |
| Expected Behaviour | **(d) MS of the tester successfully receives the SMS.**<br>**(e) MS is successfully charged.** |
| Test Result | **(f) Test case Result [Pass/Fail/Not Performed]:** |

**Name of Tester, if different from front page:.....**
**Date ……..**

### 7.6. Insufficient Balance GPRS SMS MO

| | |
|---|---|
| Standard Test purpose | GPRS SMS MO blocked because of insufficient balance |
| Operator specific hints: | ***<Please enter specific instructions here and contact person details e.g. SMSC Address>*** |
| Test Procedure | |
| | **(a) MSISDN of originating MS: *<MSISDN>*** |
| | ***(o1) Balance check using default procedure <__,__> Balance should be less than <__,__ >;*** |
| | **(b) MS attempts to sends a SMS via GPRS to: <VPLMN *MSISDN of the tester*>** |
| | **(c) Time of start (i.e. SEND key operation): <hh.mm.ss>** |
| Expected Behaviour | **(d) GPRS SMS is blocked due to insufficient balance** |
| Test Result | **(e) Test case Result [Pass/Fail/Not Performed]:** |
| Comments | **The operator may offer a contact person to set the balance to an appropriate value.** |

**Name of Tester, if different from front page:.....**
**Date ……**

# 8. Annex A: Details to Prepaid Service Methods

This section may be used from the HPLMN operator to describe the prepaid service method which is requested to be tested.