

TUP LEVEL 4 TEST SPECIFICATION

TEST NUMBER:

REFERENCE:

TITLE:

SUBTITLE:

PURPOSE:

PRE-TEST CONDITIONS:
time out

CONFIGURATION:

TYPE OF TEST:

TYPE OF SP:

EXPECTED MESSAGE SEQUENCE:

SP

SP

<—————

CCR

|-----

Check tone

<————— ½

CCF

½

1–3 minutes

½

T10

½

<————— ^

CCR

|-----

Check tone

<————— ½

CCF

½

Maintenance staff alerted

1–3 minutes

½

T10

½

←————— ^
CCR

|-----
Check tone

←—————
CCF

TEST DESCRIPTION

1.

Initiate the continuity test call procedure at SP B.
Record the message sequence using a signal monitor.

2.

CHECK A:

MINUTES?

3.

CHECK B: WERE THE MAINTENANCE STAFF ALERTED ON FAILURE OF THE
SECOND CONTINUITY CHECK?

4.

CHECK C:

5.

CHECK D:

TUP LEVEL 4 TEST SPECIFICATION

TEST NUMBER:

REFERENCE:

TITLE:

SUBTITLE:

PURPOSE:

PRE-TEST CONDITIONS:

timeout

CONFIGURATION:

TYPE OF TEST:

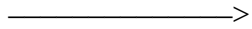
TYPE OF SP:

EXPECTED MESSAGE SEQUENCE:

SP

SP

CCR



Check tone



CCF

—

½



T10

½

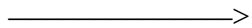
1–3 minutes

½

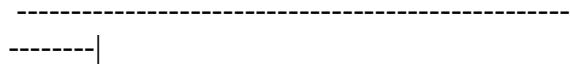
½

CCR

—



Check tone



CCF

—

½

—————>

T10

½

1–3 minutes

Maintenance staff alerted

½

½

CCR

—

—————>

Check tone

-----|

CCF

—————>

TEST DESCRIPTION

1.

Initiate the continuity test call procedure at SP A.
Record the message sequence using a signal monitor.

2.

CHECK A:

MINUTES?

3.

CHECK B: WERE THE MAINTENANCE STAFF ALERTED ON FAILURE OF THE
SECOND CONTINUITY CHECK?

4.

CHECK C:

5.

CHECK D:

TUP LEVEL 4 TEST SPECIFICATION

TEST NUMBER:

REFERENCE:

TITLE:

SUBTITLE:

PURPOSE: To verify that the action taken by a signalling point upon receipt of unreasonable signalling information is as stated in Q.724 § 6.5

PRE-TEST CONDITIONS:

- a) Arrange the data in signalling point B such that CLF, RLG, and UBL messages may be initiated
- b) The circuit should be idle and unblocked

CONFIGURATION:

TYPE OF TEST:

TYPE OF SP:

EXPECTED MESSAGE SEQUENCE:

SP
A

SP

a)

<-----

CLF

RLG

----->

b)

<-----

RLG

c)

<-----

UBL

UBA

----->

TEST DESCRIPTION

1.

Arrange for SP B to send a clear forward signal.

2.

CHECK A:

3.

CHECK B:

4.

Arrange for SP B to send a release guard signal.

5.

CHECK C:

6.

CHECK D:

7.

Arrange for SP B to send an unblocking signal.

8.

CHECK E:

9.

CHECK F:

Note – This test covers only some of the ambiguous messages which could be received.

TUP LEVEL 4 TEST SPECIFICATION

TEST NUMBER:

REFERENCE:

TITLE:

SUBTITLE:

PURPOSE: To verify that signalling point A can initiate an outgoing call on a circuit capable of bothway operation when the controlling SP is A

PRE-TEST CONDITIONS:

- a) Called termination is free
- b) Circuit selected is capable of bothway operation
- c) Circuit selected is as in test number 2.1.2
- d) SP A is the controlling signalling point

CONFIGURATION:

TYPE OF TEST:

TYPE OF SP:

EXPECTED MESSAGE SEQUENCE:

SP
A

SP

IAM

—————>

<—————

ACM

Ringing tone

<-----
ANC

Speech

Speech

CLF
----->

<-----
RLG

TEST DESCRIPTION

1.

Make a call from SP A TO SP B.
Record the message sequence using a signal monitor.

2.

CHECK A:

3.

The called party should answer the call.

4.

CHECK B:

5.

The calling party should clear the call.

6.

CHECK C:

7.

CHECK D:

TUP LEVEL 4 TEST SPECIFICATION

TEST NUMBER:

REFERENCE:

TITLE:

SUBTITLE:

PURPOSE: To verify that signalling point A can initiate an outgoing call on a circuit capable of bothway operation when the non-controlling SP is A

PRE-TEST CONDITIONS:

- a) Called termination is free
- b) Circuit selected is capable of bothway operation
- c) Circuit selected is as in test number 2.1.1
- d) SP B is the controlling signalling point

CONFIGURATION:

TYPE OF TEST:

TYPE OF SP:

EXPECTED MESSAGE SEQUENCE:

SP
A

SP

IAM
—————>

<—————
ACM

Ringing tone

<—————
ANC

Speech
—————

CLF
—————>

<—————
RLG

TEST DESCRIPTION

1.

Make a call from SP A to SP B.
Record the message sequence using a signal monitor.

2.

CHECK A:

3.

The called party should answer the call.

4.

CHECK B:

5.

The calling party should clear the call.

6.

CHECK C:

7.

CHECK D:

TUP LEVEL 4 TEST SPECIFICATION

TEST NUMBER:

REFERENCE:

TITLE:

SUBTITLE:

PURPOSE:

PRE-TEST CONDITIONS:

- a) Called termination is free

- b) The exchange data is arranged such that all digits are included in the IAM

CONFIGURATION:

TYPE OF TEST:

TYPE OF SP:

EXPECTED MESSAGE SEQUENCE:

SP
A

SP

IAM
—————>

<—————
ACM

Ringing tone

<—————
ANC

Speech
—————

Speech

CLF
—————>

←

RLG

TEST DESCRIPTION

1.

Make a call from SP A to SP B.
Record the message sequence using a signal monitor.

2.

CHECK A:

3.

The called party should answer the call.

4.

CHECK B:

5.

The calling party should clear the call.

6.

CHECK C:

7.

CHECK D:

8.

For validation testing repeat this test in the reverse direction

Where SPA is in a position to know, by digit analysis that the final digit has been sent. Confirm that an End-of-pulsing (ST) signal is included in the IAM.

TUP LEVEL 4 TEST SPECIFICATION

TEST NUMBER:

REFERENCE:

TITLE:

422 **Fascicle VI.9 – Rec. Q.783**

SUBTITLE:

PURPOSE:
and a SAO

PRE-TEST CONDITIONS:

a) Called termination is free

b) The signalling point data is arranged such that digits are generated in an IAM followed by a SAM and a SAO

CONFIGURATION:

TYPE OF TEST:

TYPE OF SP:

EXPECTED MESSAGE SEQUENCE:

SP
A

SP

IAM

----->

SAM

----->

SAO

----->

<-----

ACM

Ringing tone

<-----

ANC

Speech

Speech

CLF

----->

<-----

RLG

TEST DESCRIPTION

1.

Make a call from SP A to SP B.
Record the message sequence using a signal monitor.

2.

CHECK A:

3.

The called party should answer the call.

4.

CHECK B:

5.

The calling party should clear the call.

6.

CHECK C:

7.

CHECK D:

8.

For validation testing repeat this test in the reverse direction.

Note –

Where SPA is in a position to know by digit analysis that the final digit has been sent. Confirm that an end-of-pulsing (ST) signal is included in the last address message.

TUP LEVEL 4 TEST SPECIFICATION

TEST NUMBER:

REFERENCE:

TITLE:

SUBTITLE:

PURPOSE: To verify that a call can be successfully completed using various combinations of address complete messages and answer messages

PRE-TEST CONDITIONS:

CONFIGURATION:

TYPE OF TEST:

TYPE OF SP:

EXPECTED MESSAGE SEQUENCE:

SP
A

SP

IAM
----->

<-----
ACM

Ringing tone

<-----
ANC

Speech

Speech

CLF

----->

<-----

RLG

TEST DESCRIPTION

1.

Make a call from SP A to SP B.
Record the message sequence using a signal monitor.

2.

CHECK A:

3.

The called party should answer the call.

4.

CHECK B:

5.

The calling party should clear the call.

6.

CHECK C:

7.

CHECK D:

8.

Repeat steps 1–7 with all combinations of bits A&B in the address complete message.

9.

Repeat steps 1–8 with ANC replaced with an ANN.

10.

Repeat this test in the reverse direction.

TUP LEVEL 4 TEST SPECIFICATION

TEST NUMBER:

REFERENCE:

TITLE:

SUBTITLE:

PURPOSE:

PRE-TEST CONDITIONS:

- a) Called termination is free

- b) The signalling point data is arranged such that the call is switched via a satellite connection or has a satellite connection already included in the path

CONFIGURATION:

TYPE OF TEST:

TYPE OF SP:

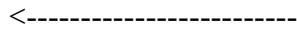
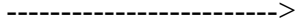
EXPECTED MESSAGE SEQUENCE:

SP

A

SP

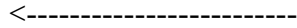
IAM



ACM



Ringing tone



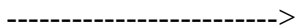
ANC

Speech



Speech

CLF



<-----

RLG

TEST DESCRIPTION

1.

Make a call from SP A to SP B.
Record the message sequence using a signal monitor.

2.

CHECK A:

3.

The called party should answer the call.

4.

CHECK B:

5.

The calling party should clear the call.

6.

CHECK C:

7.

CHECK D:

8.

CHECK E:

9.

For validation testing repeat this test in the reverse direction?

TUP LEVEL 4 TEST SPECIFICATION

TEST NUMBER:

REFERENCE:

TITLE:

SUBTITLE:

PURPOSE:
suppressors

PRE-TEST CONDITIONS:

- a) Called termination is free

- b) The signalling point data is arranged such that the call is routed over a route requiring echo suppressors or already has an echo suppressor included in the connection

CONFIGURATION:

TYPE OF TEST:

TYPE OF SP:

EXPECTED MESSAGE SEQUENCE:

SP
A

SP

IAM
----->

<-----
ACM

Ringing tone

<-----

ANC

Speech

Speech

CLF

----->

<-----

RLG

TEST DESCRIPTION

1.

Make a call from SP A to SP B.
Record the message sequence using a signal monitor.

2.

CHECK A:

3.

The called party should answer.

4.

CHECK B:

5.

CHECK C:

6.

The calling party should clear the call.

7.

CHECK D:

8.

CHECK E:

9.

CHECK F: WAS THE MESSAGE INDICATOR BIT G (OUTGOING HALF ECHO SUPPRESSOR INCLUDED) IN THE IAM SET TO 1?

10.

CHECK G: WAS THE MESSAGE INDICATOR BIT D (INCOMING HALF ECHO SUPPRESSOR INCLUDED) IN THE ACM SET TO 1?

11.

For validation testing repeat this test in the reverse direction.

TUP LEVEL 4 TEST SPECIFICATION

TEST NUMBER:

REFERENCE:

TITLE:

SUBTITLE:

PURPOSE:
initiated during a call

PRE-TEST CONDITIONS:

CONFIGURATION:

TYPE OF TEST:

TYPE OF SP:

EXPECTED MESSAGE SEQUENCE:

SP

A

SP

IAM

----->

<-----

ACM

Ringing tone

<-----

ANC

Speech

Speech

BLO

----->

<-----

BLA

CLF

----->

<-----

RLG

UBL

----->

<-----

UBA

TEST DESCRIPTION

1.

Make a call from SP A to SP B.
Record the message sequence using a signal monitor.

2.

CHECK A:

3.

The called party should answer the call.

4.

CHECK B:

5.

SP A should initiate circuit blocking relating to the circuit used for this call.

6.

CHECK C:

7.

The calling party should clear the call.

8.

CHECK D:

SP A?

9.

SP A should send an unblocking signal.

10.

CHECK E:

EITHER SP.

11.

CHECK F:

12.

Repeat this test in the reverse direction.

Note – The blocking signal may be generated after the call has cleared.

TUP LEVEL 4 TEST SPECIFICATION

TEST NUMBER:

REFERENCE:

TITLE:

SUBTITLE:

PURPOSE:
received during a call

PRE-TEST CONDITIONS:

CONFIGURATION:

TYPE OF TEST:

TYPE OF SP:

EXPECTED MESSAGE SEQUENCE:

SP
A

SP

IAM

----->

<-----

ACM

Ringling tone

<-----

ANC

Speech

Speech

<-----

BLO

BLA

----->

CLF

----->

<-----

RLG

<-----

UBL

UBA

----->

TEST DESCRIPTION

1.

Make a call from SP A to SP B.
Record the message sequence using a signal monitor.

2.

CHECK A:

3.

The called party should answer the call.

4.

CHECK B:

5.

SP B should initiate circuit blocking relating to the circuit used for this call.

6.

CHECK C:

7.

The calling party should clear the call.

8.

CHECK D:

SP B?

9.

SP B should send an unblocking signal.

10.

CHECK E:

EITHER SP.

11.

CHECK F:

12.

Repeat this test in the reverse direction.

Note – The blocking signal may be generated after the call has cleared.

TUP LEVEL 4 TEST SPECIFICATION

TEST NUMBER:

REFERENCE:

TITLE:

SUBTITLE:

PURPOSE: To verify that the calling party can successfully release a call prior to receipt of an address complete message

PRE-TEST CONDITIONS:

CONFIGURATION:

TYPE OF TEST:

TYPE OF SP:

EXPECTED MESSAGE SEQUENCE:

SP
A

SP

IAM
----->

CLF

----->

<-----

RLG

TEST DESCRIPTION

1.

Make a call from SP A to SP B.
Record the message sequence using a signal monitor.

2.

The calling party should clear the call prior to receipt of the address complete signal.

3.

CHECK A:

4.

CHECK B:

5.

Repeat this test in the reverse direction.

TUP LEVEL 4 TEST SPECIFICATION

TEST NUMBER:

REFERENCE:

TITLE:

SUBTITLE:

PURPOSE:
answer

PRE-TEST CONDITIONS:

CONFIGURATION:

TYPE OF TEST:

TYPE OF SP:

EXPECTED MESSAGE SEQUENCE:

SP
A

SP

IAM

----->

<-----

ACM

Ringing tone

CLF

----->

<-----

RLG

TEST DESCRIPTION

1.

Make a call from SP A to SP B.
Record the message sequence using a signal monitor.

2.

CHECK A:

3.

The calling party should clear the call prior to receipt of an answer signal.

4.

CHECK B:

5.

CHECK C:

6.

For validation testing this test should be repeated in the reverse direction.

TUP LEVEL 4 TEST SPECIFICATION

TEST NUMBER:

REFERENCE:

TITLE:

SUBTITLE:

PURPOSE:

PRE-TEST CONDITIONS:

CONFIGURATION:

TYPE OF TEST:

TYPE OF SP:

EXPECTED MESSAGE SEQUENCE:

SP
A

SP

IAM

----->

<-----

ACM

Ringing tone

<-----

ANC

Speech

Speech

CLF

----->

<-----

RLG

TEST DESCRIPTION

1.

Make a call from SP A to SP B.
Record the message sequence using a signal monitor.

2.

CHECK A:

3.

The called party should answer the call.

4.

CHECK B:

5.

The calling party should clear the call.

6.

CHECK C:

7.

CHECK D:

8.

For validation testing this test should be repeated in the reverse direction.

TUP LEVEL 4 TEST SPECIFICATION

TEST NUMBER:

REFERENCE:

TITLE:

SUBTITLE:

PURPOSE:

PRE-TEST CONDITIONS:

CONFIGURATION:

TYPE OF TEST:

TYPE OF SP:

EXPECTED MESSAGE SEQUENCE:

SP
A

SP

IAM
----->

<-----
ACM

Ringing tone

<-----

ANC

Speech

Speech

<-----

CBK

CLF

----->

<-----

RLG

TEST DESCRIPTION

1.

Make a call from SP A to SP B.
Record the message sequence using a signal monitor.

2.

CHECK A:

3.

The called party should answer the call.

4.

CHECK B:

5.

The called party should clear the call.

6.

The calling party should clear the call.

7.

CHECK C:

8.

CHECK D:

9.

For validation testing repeat this test in the reverse direction.

TUP LEVEL 4 TEST SPECIFICATION

TEST NUMBER:

REFERENCE:

TITLE:

SUBTITLE:

PURPOSE:
speech state

PRE-TEST CONDITIONS:

CONFIGURATION:

TYPE OF TEST:

TYPE OF SP:

EXPECTED MESSAGE SEQUENCE:

SP
A

SP

IAM
----->

<-----
ACM

Ringing tone

<-----
ANC

Speech

Speech

<-----

CBK

<-----

RAN

Speech

Speech

CLF

----->

<-----

RLG

TEST DESCRIPTION

1.

Make a call from SP A to SP B.
Record the message sequence using a signal monitor.

2.

CHECK A:

3.

The called party should answer the call.

4.

CHECK B:

5.

The called party should clear the call.

6.

The called party should reanswer the call.

7.

CHECK C:

8.

The calling party should clear the call.

9.

CHECK D:

10.

CHECK E:

11.

For validation testing repeat this test in the reverse direction.

TUP LEVEL 4 TEST SPECIFICATION

TEST NUMBER:

REFERENCE:

TITLE:

SUBTITLE:

PURPOSE: To verify the call will be immediately released by the outgoing signalling point if a switching equipment congestion signal is received and the correct indication is given to the calling party

PRE-TEST CONDITIONS:
congestion is returned to the request

CONFIGURATION:

TYPE OF TEST:

TYPE OF SP:

EXPECTED MESSAGE SEQUENCE:

SP
A

SP

IAM
----->

<-----

SEC

CLF
----->

<-----

RLG

TEST DESCRIPTION

1.

Attempt to make a call from SP A to SP B.
Record the message sequence with a signal monitor.

2.

CHECK A: IS THE APPROPRIATE TONE OR ANNOUNCEMENT RETURNED TO THE
CALLING PARTY?

3.

CHECK B:

4.

CHECK C:

Note – It may not be possible to confirm that the appropriate tone is returned to the calling party. In this case it must be verified that the signalling point under test retransmits the signal received.

TUP LEVEL 4 TEST SPECIFICATION

TEST NUMBER:

REFERENCE:

TITLE:

SUBTITLE:

PURPOSE:

PRE-TEST CONDITIONS:
is returned to the call request

CONFIGURATION:

TYPE OF TEST:

TYPE OF SP:

EXPECTED MESSAGE SEQUENCE:

SP
A

SP

<-----
IAM

SEC
----->

<-----
CLF

RLG
----->

TEST DESCRIPTION

1.

Attempt to make a call from SP B to SP A.
Record the message sequence with a signal monitor.

2.

CHECK A: IS THE APPROPRIATE TONE OR ANNOUNCEMENT RETURNED TO THE
CALLING PARTY?

3.

CHECK B:

4.

CHECK C:

Note – It may not be possible to confirm that the appropriate tone is returned to the calling party. In this case it must be verified that the signalling point under test retransmits the signal received.

TUP LEVEL 4 TEST SPECIFICATION

TEST NUMBER:

REFERENCE:

TITLE:

SUBTITLE:

PURPOSE: To verify that a call will be immediately released by the outgoing signalling point if a circuit group congestion signal is received and the correct indication is given to the calling party

PRE-TEST CONDITIONS:

congestion signal is returned to the call request

CONFIGURATION:

TYPE OF TEST:

TYPE OF SP:

EXPECTED MESSAGE SEQUENCE:

SP
A

SP

IAM
----->

<-----
CGC

CLF
----->

<-----
RLG

TEST DESCRIPTION

1.

Attempt to make a call from SP A to SP B.
Record the message sequence using a signal monitor.

2.

CHECK A: IS THE APPROPRIATE TONE OR ANNOUNCEMENT RETURNED TO THE
CALLING PARTY?

3.

CHECK B:

4.

CHECK C:

Note 1 – An address complete signal (without subscriber free) may be sent in the backward direction before a CGC signal is sent.

Note 2 – It may not be possible to confirm that the appropriate tone is returned to the calling party. In this case it must be verified that the signalling point under test retransmits the signal received.