5i’

Recommendation Q.783

TUP TEST SPECIFICATION

1 Introduction

This Recommendation contains a set of detailed tests for the Signalling System No. 7 Telephony User Part (TUP). These tests are intended to validate the protocol specified in Q.721-Q.724 Recommendations. This Recommendation conforms to Q.780 Recommendations which describes the basic rules of the test specification.

2 General principles of TUP tests

The TUP tests aim at testing TUP protocol conformance in a given implementation. The tests are described as ‘‘Validation’’ tests or ‘‘Validation’’ and ‘‘Compatibility’’ tests. Each test description indicates in the field ‘‘type of test’’ whether the test is ‘‘Validation’’ or ‘‘Validation’’ and ‘‘Compatibility’’. As the TUP also describes the required call control actions resulting from TUP message transfer the TUP tester also checks the result of those call control actions, e.g. that speech/information transfer is possible.

3 Test configuration

A stable signalling relation is required between ‘‘SP A’’ and ‘‘SP B’’ in order to effectively test the TUP. In addition telephony circuits are required for some of the tests.

4 TUP test list

All tests may be validation tests. Tests marked ‘‘*’’ are compatibility tests. Tests marked ‘‘fs’’ are for further study.

1 *Circuit supervision*

* 1.1 Non allocated circuits

1.2 Reset of circuits

1.2.1 RSC received on an idle circuit

1.2.2 RSC sent on an idle circuit

1.2.3 Group reset received

1.2.4 Group reset sent

1.3 Blocking of circuits

1.3.1 Group blocking/unblocking

1.3.1.1 HGB received

1.3.1.2 HGB sent

* 1.3.1.3 MGB received

* 1.3.1.4 MGB sent

1.3.2 Circuit blocking/unblocking

* 1.3.2.1 BLO received

* 1.3.2.2 BLO sent

* 1.3.2.3 Circuit blocking from both ends; removal of blocking from one end

1.3.2.4 Interruption for FDM circuits

1.4 Continuity check test call

* 1.4.1 CCTC received: successful

* 1.4.2 CCTC sent: successful

1.4.3 CCTC received: unsuccessful

1.4.4 CCTC sent: unsuccessful

1.5 Receipt of unreasonable signalling information

1.5.1 Received

2 *Normal call set-up*

2.1 Both way circuit selection

* 2.1.1 IAM sent by controlling SP

* 2.1.2 IAM sent by non controlling SP

2.2 Called address sending

* 2.2.1 ‘‘en bloc’’ operation

* 2.2.2 Overlap operation

2.3 Successful call set-up

2.3.1 Ordinary call (with various ACM and ANS)

* 2.3.2 Call switched via satellite

* 2.3.3 Test for echo suppressor call set-up

* 2.3.4 Blocking and unblocking during a call (initiated)

* 2.3.5 Blocking and unblocking during a call (received)

3 *Normal call release*

* 3.1 Calling party clears: before ACM

* 3.2 Calling party clears: before ANS

* 3.3 Calling party clears: after ANS

* 3.4 Calling party clears: after CLEAR BACK

* 3.5 Reanswer

4 *Unsuccessful set-up*

4.1 SEC

4.1.1 SEC received

4.1.2 SEC sent

4.2 CGC

4.2.1 CGCreceived

4.2.2 CGC sent

4.3 NNC

4.3.1 NNC received

4.3.2 NNC sent

4.4 ADI

* 4.4.1 ADI received

* 4.4.2 ADI sent

4.5 CFL

4.5.1 CFL received

4.5.2 CFL sent

4.6 SSB

* 4.6.1 SSB received

* 4.6.2 SSB sent

4.7 UNN

* 4.7.1 UNN received

* 4.7.2 UNN sent

4.8 LOS

4.8.1 LOS received

4.8.2 LOS sent

4.9 SST

4.9.1 SST received

4.9.2 SST sent

4.10 ACB

4.10.1 ACB received

4.10.2 ACB sent

4.11 DPN

4.11.1 DPN received

4.11.2 DPN sent

5 *Abnormal situation during a call*

5.1 Inability to release in response to a CLF

5.2 Inability to release in response to a backward signal

5.3 Timers

5.3.1 T2

5.3.2 T3

5.3.3 T4

5.3.4 T5

5.3.5 T6

* 5.3.6 ANS signal not received (Q.118 Timer)

* 5.3.7 Delay in clearing by calling party (Q.118 Timer)

5.4 Reset of circuits during a call

5.4.1 Of an outgoing circuit

5.4.2 Of an incoming circuit

5.5 Receipt of unreasonable signalling information

5.5.1 (Now test No. 1.5.1)

fs 5.5.2 Received

5.6 Interruption of signalling relation

6 *Special call set-up*

6.1 Continuity check call

* 6.1.1 COT applied on an outgoing circuit

* 6.1.2 COT applied on previous circuit

* 6.1.3 COT on a satellite circuit

6.1.4 Calling party clears during a COT

* 6.1.5 Delay of through connect

6.1.6 COT unsuccessful

6.1.7 COT received on incoming circuit

6.2 Automatic repeat attempt

6.2.1 Dual seizure

6.2.2 Circuit reset

6.2.3 Reception of unreasonable signal information

* 6.2.4 Blocking of the circuit

6.2.5 Continuity check failure

6.3 Dual seizure

6.3.1 Dual seizure for controlling side

7 *Supplementary services*

fs 7.1 CUG

fs 7.2 User access to the calling line identity

fs 7.3 User access to the called line identity

fs 7.4 Redirection of calls

fs 7.5 CCBS

fs 7.6 Network access to calling line identity

8 *Performance tests*

Note — For further study.

Figure 1/Q.783, p.

H.T. [T1.783]
TUP LEVEL 4 TEST SPECIFICATION

TEST NUMBER: 1.1		
REFERENCE:		
TITLE: Circuit supervision		

{
SUBTITLE: Non-allocated circuits
}		

{
PURPOSE:
To verify that on receipt of a CIC relating to a circuit which does not exist, SP A will discard the message and alert maintenance personnel
}		

{
PRE-TEST CONDITIONS:
Arrange the data in signalling point B such that the CIC identifies a circuit that does not exist between SP A and SP B
}		

CONFIGURATION: 1	TYPE OF TEST: VAT and CPT	TYPE OF SP: SP
EXPECTED MESSAGE SEQUENCE: SP A	<---------- IAM	SP B
TEST DESCRIPTION		
1. Arrange for SP B to send an initial address message. Record the message sequence using a signal monitor. }	{	
2. CHECK A: IS THE CIRCUIT IDLE? | | | | | | }	{	
3. CHECK B: WAS THE MESSAGE SEQUENCE AS SHOWN ABOVE? | | | | | | }	{	
4. CHECK C: WAS THE INDICATION GIVEN TO THE MAINTENANCE PERSONNEL? | | | | | | }	{	

Tableau [T1.783], p.

H.T. [T2.783]
TUP LEVEL 4 TEST SPECIFICATION

TEST NUMBER: 1.2.1		
REFERENCE: Q.724 § 1.15.1		
TITLE: Reset of circuits		

{
SUBTITLE: RSC received on an idle circuit
}		

{
PURPOSE: To verify that on receipt of a reset circuit signal SP A will respond by sending a release guard signal
}		

{
PRE-TEST CONDITIONS: The circuit is idle
}		

CONFIGURATION: 1	TYPE OF TEST: VAT	TYPE OF SP: SP
EXPECTED MESSAGE SEQUENCE: SP A RLG	 <---------- ---------->	 SP B RSC
TEST DESCRIPTION		
1. Arrange for SP B to send a reset-circuit signal. Record the message sequence using a signal monitor. }	{	
2. CHECK A: IS THE CIRCUIT IDLE? | | | | | | }	{	
3. CHECK B: WAS THE MESSAGE SEQUENCE AS ABOVE? | | | | | | }	{	

Tableau [T2.783], p.

H.T. [T3.783]
TUP LEVEL 4 TEST SPECIFICATION

TEST NUMBER: 1.2.2		
REFERENCE: Q.724 § 1.15.1		
TITLE: Reset of circuits		

{
SUBTITLE: RSC sent on an idle circuit
}		

{
PURPOSE: To verify that SP A is able to generate reset-circuit signal
}		

{
PRE-TEST CONDITIONS: The circuit is idle
}		

CONFIGURATION: 1	TYPE OF TEST: VAT	TYPE OF SP: SP
EXPECTED MESSAGE SEQUENCE:		
SP A RSC	 ----------> <----------	SP B RLG
TEST DESCRIPTION		
1. Arrange for SP A to send a reset-circuit signal. Record the message sequence using a signal monitor. }	{	
2. CHECK A: IS THE CIRCUIT IDLE? | | | | | | }	{	
3. CHECK B: WAS THE MESSAGE SEQUENCE AS ABOVE? | | | | | | }	{	

Tableau [T3.783], p.

H.T. [T4.783]
TUP LEVEL 4 TEST SPECIFICATION

TEST NUMBER: 1.2.3		
REFERENCE: Q.724 § 1.15.2		
TITLE: Reset of circuits		

{
SUBTITLE: Group reset received
}		

{
PURPOSE:
To verify that on receipt of two circuit group reset messages within a period of 5 seconds, SP A will respond by sending a circuit reset acknowledge message
}		

PRE-TEST CONDITIONS:		
CONFIGURATION: 1	TYPE OF TEST: VAT	TYPE OF SP: SI
EXPECTED MESSAGE SEQUENCE:		
SP A		SP B
	<----------	GRS
	<----------	GRS
GRA	---------->	
TEST DESCRIPTION		
1. Arrange for SP B to send two circuit group reset messages within a period of 5 seconds. Record the message sequence using a signal monitor. }	{	
2. CHECK A: IS THE CIRCUIT GROUP IDLE? | | | | | | }	{	
3. CHECK B: WAS THE MESSAGE SEQUENCE AS ABOVE? | | | | | | }	{	

Tableau [T4.783], p.

H.T. [T5.783]
TUP LEVEL 4 TEST SPECIFICATION

TEST NUMBER: 1.2.4		
REFERENCE: Q.724 § 1.15.2		
TITLE: Reset of circuits		
SUBTITLE: Group reset sent		

{
PURPOSE: To verify that SP A is able to generate a circuit group reset message
}		

PRE-TEST CONDITIONS:		
CONFIGURATION: 1	TYPE OF TEST: VAT	TYPE OF SP: S
EXPECTED MESSAGE SEQUENCE:		
SP A		SP B
GRS	---------->	
GRS	---------->	
	<----------	GRA
TEST DESCRIPTION		
1. Arrange for SP A to send two circuit group reset messages within a period of 5 seconds. Record the message sequence using a signal monitor. }	{	
2. CHECK A: IS THE CIRCUIT GROUP IDLE? | | | | | | }	{	
3. CHECK B: WAS THE MESSAGE SEQUENCE AS ABOVE? | | | | | }	{	

Tableau [T5.783], p.

H.T. [T6.783]
TUP LEVEL 4 TEST SPECIFICATION

TEST NUMBER: 1.3.1.1		
REFERENCE: Q.724 § 5.2		

{
TITLE: Group blocking/unblocking
}		

SUBTITLE: HGB received		

{
PURPOSE: To verify that the hardware failure group blocking procedure can be correctly initiated
}		

PRE-TEST CONDITIONS:		
CONFIGURATION: 1	TYPE OF TEST: VAT	TYPE O
EXPECTED MESSAGE SEQUENCE:		
SP A		SP B
	<----------	HGB
	<----------	HGB
HBA	---------->	
	<----------	HGU
	<----------	HGU
HUA	---------->	
TEST DESCRIPTION		
1. Arrange for SP B to send two hardware failure oriented group blocking messages within a period of 5 seconds. Record the message sequence using a signal monitor. }	{	
2. CHECK A: VERIFY THAT A CALL CAN ONLY BE ORIGINATED FROM SP B ON THE CIRCUITS INDICATED BY THE RANGE FIELD IN THE HGB MESSAGE }	{	
3. Arrange for SP B to send two hardware failure oriented group unblocking messages within a period of 5 seconds. }	{	
4. CHECK B: VERIFY THAT A CALL CAN BE ORIGINATED FROM EITHER SP ON THE CIRCUITS INDICATED BY THE RANGE FIELD }	{	
5. CHECK C: WAS THE MESSAGE SEQUENCE AS ABOVE? | | | | | | }	{	

Tableau [T6.783], p.

H.T. [T7.783]
TUP LEVEL 4 TEST SPECIFICATION

TEST NUMBER: 1.3.1.2

REFERENCE: Q.724 § 5.2

{
TITLE: Group blocking/unblocking
}

SUBTITLE: HGB sent

{
PURPOSE:
To verify that SP A is able to generate both hardware failure oriented group blocking messages and hardware failure oriented group unblocking messages
}

PRE-TEST CONDITIONS:

CONFIGURATION: 1	TYPE OF TEST: VAT	TYPE O
EXPECTED MESSAGE SEQUENCE:		
SP A		SP B
HGB	---------->	
HGB	---------->	
	<----------	HGB
HGU	---------->	
HGU	---------->	
	<----------	HUA
TEST DESCRIPTION		
1. Arrange for SP A to send two hardware failure oriented group blocking messages within a period of 5 seconds. Record the message sequence using a signal monitor. }	{	
2. CHECK A: VERIFY THAT A CALL CAN ONLY BE ORIGINATED FROM SP A ON THE CIRCUITS INDICATED BY THE RANGE FIELD IN THE HGB MESSAGE }	{	
3. Arrange for SP A to send two hardware failure oriented group unblocking messages within a period of 5 seconds. }	{	
4. CHECK B: VERIFY THAT A CALL CAN BE ORIGINATED FROM EITHER SP ON THE CIRCUIT INDICATED BY THE RANGE FIELD }	{	
5. CHECK C: WAS THE MESSAGE SEQUENCE AS ABOVE? | | | | | | }	{	

Tableau [T7.783], p.

H.T. [T8.783]
TUP LEVEL 4 TEST SPECIFICATION

TEST NUMBER: 1.3.1.3		
REFERENCE: Q.724 § 5.1		

{
TITLE: Group blocking/unblocking
}		

SUBTITLE: MGB received		

{
PURPOSE: To verify that the maintenance oriented group blocking procedure can be correctly initiated
}		

PRE-TEST CONDITIONS:		
CONFIGURATION: 1	TYPE OF TEST: VAT and CPT	TYPE O
EXPECTED MESSAGE SEQUENCE:		
SP A		SP B
	<----------	MGB
	<----------	MGB
MBA	---------->	
	<----------	MGU
	<----------	MGU
MUA	---------->	
TEST DESCRIPTION		
1. Arrange for SP B to send two maintenance oriented group blocking messages within a period of 5 seconds. Record the message sequence using a signal monitor. }	{	
2. CHECK A: VERIFY THAT A CALL CAN ONLY BE ORIGINATED FROM SP B ON THE CIRCUITS INDICATED BY THE RANGE FIELD IN THE MGB MESSAGE }	{	
3. Arrange for SP B to send two maintenance oriented group unblocking messages within a period of 5 seconds. }	{	
4. CHECK B: VERIFY THAT A CALL CAN BE ORIGINATED FROM EITHER SP ON THE CIRCUITS INDICATED BY THE RANGE FIELD }	{	
5. CHECK C: WAS THE MESSAGE SEQUENCE AS ABOVE? | | | | | | }	{	

Tableau [T8.783], p.

H.T. [T9.783]
TUP LEVEL 4 TEST SPECIFICATION

TEST NUMBER: 1.3.1.4

REFERENCE: Q.724 § 5.1

{
TITLE: Group blocking/unblocking
}

SUBTITLE: MGB sent

{
PURPOSE:
To verify that SP A is able to generate both maintenance oriented group blocking messages and maintenance oriented group unblocking messages
}

PRE-TEST CONDITIONS:

CONFIGURATION: 1	TYPE OF TEST: VAT and CPT	TYPE O
EXPECTED MESSAGE SEQUENCE:		
SP A		SP B
MGB	---------->	
MGB	---------->	
	<----------	MGA
MGU	---------->	
MGU	---------->	
	<----------	MUA
TEST DESCRIPTION		
1. Arrange for SP A to send two maintenance oriented group blocking messages within a period of 5 seconds. Record the message sequence using a signal monitor. }	{	
2. CHECK A: VERIFY THAT A CALL CAN ONLY BE ORIGINATED FROM SP A ON THE CIRCUITS INDICATED BY THE RANGE FIELD IN THE MGB MESSAGE }	{	
3. Arrange for SP A to send two maintenance oriented group unblocking messages within a period of 5 seconds. }	{	
4. CHECK B: VERIFY THAT A CALL CAN BE ORIGINATED FROM EITHER SP ON THE CIRCUIT INDICATED BY THE RANGE FIELD }	{	
5. CHECK C: WAS THE MESSAGE SEQUENCE AS ABOVE? | | | | | | }	{	

Tableau [T9.783], p.

H.T. [T10.783]
TUP LEVEL 4 TEST SPECIFICATION

TEST NUMBER: 1.3.2.1		
REFERENCE: Q.724 § 5.1		

{
TITLE: Circuit blocking/unblocking
}		

SUBTITLE: BLO received		

{
PURPOSE: To verify that the blocking/unblocking procedure can be correctly initiated
}		

PRE-TEST CONDITIONS:		
CONFIGURATION: 1	TYPE OF TEST: VAT and CPT	TY
EXPECTED MESSAGE SEQUENCE:		
SP A		SP I
	<----------	BLO
BLA	---------->	
	<----------	UBL
UBA	---------->	
TEST DESCRIPTION		
1. Arrange for SP B to send a blocking signal. Record the message sequence using a signal monitor. }	{	
2. CHECK A: VERIFY THAT A CALL CAN ONLY BE ORIGINATED FROM SP B ON THIS CIRCUIT }	{	
3. Arrange for SP B to send an unblocking signal. }	{	
4. CHECK B: VERIFY THAT A CALL CAN BE ORIGINATED FROM EITHER EXCHANGE ON THIS CIRCUIT }	{	
5. CHECK C: WAS THE MESSAGE SEQUENCE AS ABOVE? | | | | | | }	{	

Tableau [T10.783], p.

H.T. [T11.783]
TUP LEVEL 4 TEST SPECIFICATION

TEST NUMBER: 1.3.2.2		
REFERENCE: Q.724 § 5.1		

{
TITLE: Circuit blocking/unblocking
}		

SUBTITLE: BLO sent		

{
PURPOSE: To verify that SP A is able to generate blocking messages
}		

PRE-TEST CONDITIONS:		
CONFIGURATION: 1	TYPE OF TEST: VAT and CPT	TYPE C
EXPECTED MESSAGE SEQUENCE:		
SP A		SP B
BLO	---------->	
	<----------	BLA
UBL	---------->	
	<----------	UBA
TEST DESCRIPTION		
1. Arrange for SP A to send a blocking signal. Record the message sequence using a signal monitor. }	{	
2. CHECK A: VERIFY THAT A CALL CAN ONLY BE ORIGINATED FROM SP A ON THIS CIRCUIT }	{	
3. Arrange for SP A to send an unblocking signal. }	{	
4. CHECK B: VERIFY THAT A CALL CAN BE ORIGINATED FROM EITHER SP ON THIS CIRCUIT }	{	
5. CHECK C: WAS THE MESSAGE SEQUENCE AS SHOWN ABOVE? | | | | | }	{	

Tableau [T11.783], p.

H.T. [T12.783]
TUP LEVEL 4 TEST SPECIFICATION

TEST NUMBER: 1.3.2.3		
REFERENCE: Q.724 § 5.1		

{
TITLE: Circuit blocking/unblocking
}		

{
SUBTITLE: Blocking from both ends: removal of blocking from one end
}		

{
PURPOSE: To verify that the blocking/unblocking procedure can be correctly initiated
}		

PRE-TEST CONDITIONS:		
CONFIGURATION: 1	TYPE OF TEST: VAT and CPT	TYPE C
EXPECTED MESSAGE SEQUENCE:		
SP A		SP B
BLO	---------->	
	<----------	BLA
	<----------	BLO
BLA	---------->	
UBL	---------->	
	<----------	UBA
	<----------	UBL
UBA	---------->	
TEST DESCRIPTION		
1. Arrange for SP A to send a blocking signal. Record the message sequence using a signal monitor. }	{	
2. CHECK A: VERIFY THAT A CALL CAN ONLY BE ORIGINATED FROM SP A ON THIS CIRCUIT }	{	
3. Arrange for SP B to send a blocking signal. }	{	
4. CHECK B: VERIFY THAT A CALL CANNOT BE ORIGINATED ON THIS CIRCUIT BY EITHER SP }	{	
5. Arrange for SP A to send an unblocking signal. }	{	
6. CHECK C: VERIFY THAT A CALL CAN ONLY BE ORIGINATED BY SP B }	{	
7. Arrange for SP B to send an unblocking signal. }	{	
8. CHECK D: WAS THE MESSAGE SEQUENCE AS ABOVE? | | | | | | }	{	

Tableau [T12.783], p.

H.T. [T13.783]
TUP LEVEL 4 TEST SPECIFICATION

TEST NUMBER: 1.3.2.4		
REFERENCE: Q.724 § 9.2		

{
TITLE: Circuit blocking/unblocking
}		

{
SUBTITLE: Interruption from FDM circuits
}		

{
PURPOSE: To verify th
at an interruption of the pilot in FDM
system causes a blocking signal to be sent
}		

{
PRE-TEST CONDITIONS: The signa
lling points must be linked by a
transmission system using FDM
}		

CONFIGURATION: 1	TYPE OF TEST: VAT	TYPE OF S
EXPECTED MESSAGE SEQUENCE:		
SP A		SP B
BLO	---------->	
	<----------	BLA
UBL	---------->	
	<----------	UBA
TEST DESCRIPTION		
1. Arrange for the reception of the pilot signal at SP A to be interrupted more than 4-15 seconds. Record the message sequence using a signal monitor. }	{	
2. CHECK A: CONFIRM THAT A CALL CANNOT BE INITIATED BY EITHER SP }	{	
3. Arrange for the interruption of the pilot tone to be terminated. }	{	
4. CHECK B: CONFIRM THAT A CALL CAN BE INITIATED BY EITHER SP AFTER A PERIOD OF 4-15 SECONDS }	{	
5. CHECK C: WAS THE MESSAGE SEQUENCE AS ABOVE? | | | | | }	{	

Tableau [T13.783], p.

H.T. [T14.783]
TUP LEVEL 4 TEST SPECIFICATION

TEST NUMBER: 1.4.1		
REFERENCE: Q.724 § 7.5		

{
TITLE: Continuity check test call
}		

{
SUBTITLE: CCTC received: Successful
}		

{
PURPOSE: To verify th
at the continuity test call procedure can be
correctly performed
}		

{
PRE-TEST CONDITIONS: Circuit must be idle
}		

CONFIGURATION: 1	TYPE OF TEST: VAT and CPT	TYPE OF SP: SP
EXPECTED MESSAGE SEQUENCE: SP A | | (hy---------- } **| fR** **| (hy----------** **}** **RLG**	 <---------- { Check tone { <---------- ---------->	SP B CCR **CLF**
TEST DESCRIPTION		
1. **Initiate the continuity test call procedure at SP B.** **Record the message sequence using a signal monitor.** **}** **2.** **CHECK A:** **IS THE CIRCUIT IDLE? | | | | | |** **}** **3.** **CHECK B:** **WAS THE MESSAGE SEQUENCE AS ABOVE? | | | | | |** **}**	**{** **{** **{**	

Tableau [T14.783], p.

H.T. [T15.783]
TUP LEVEL 4 TEST SPECIFICATION

TEST NUMBER: 1.4.2		
REFERENCE: Q.724 § 7.5		

{
TITLE: Continuity check test call
}		

{
SUBTITLE: CCTC sent: successful
}		

{
PURPOSE: To verify th
at the continuity test call procedure can be
correctly performed
}		

{
PRE-TEST CONDITIONS: Circuit must be idle
}		

CONFIGURATION: 1	TYPE OF TEST: VAT and CPT	TYPE OF SP: SP
EXPECTED MESSAGE SEQUENCE: SP A CCR Check Tone ---------- | | } ---------- | f | fR } CLF	 ----------> { { ----------> <--	 SP B RLG
TEST DESCRIPTION		
1. Initiate the continuity test call procedure at SP A. Record the message sequence using a signal monitor. } 2. CHECK A: IS THE CIRCUIT IDLE? | | | | | | } 3. CHECK B: WAS THE MESSAGE SEQUENCE AS ABOVE? | | | | | | }	{ { { 	

Tableau [T15.783], p.

H.T. [T16.783]
TUP LEVEL 4 TEST SPECIFICATION

TEST NUMBER: 1.4.3

REFERENCE: Q.724 § 7.5

TITLE: Continuity check test call

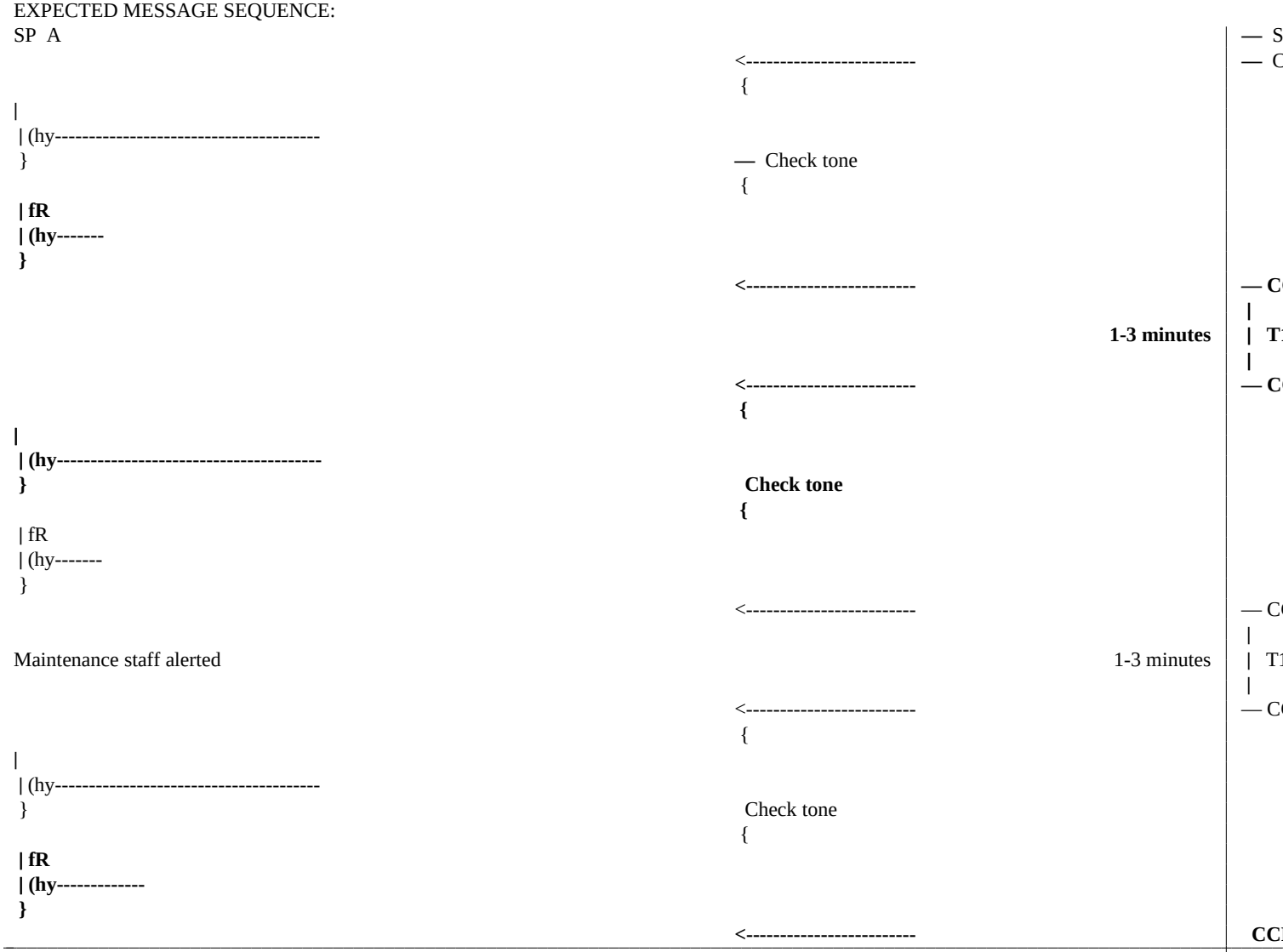
SUBTITLE: CCTC received: unsuccessful

PURPOSE: To verify tha
t the continuity check procedure can be
correctly received

PRE-TEST CONDITIONS: Ensure th
at no backward check tone is
detected within the specified time out

CONFIGURATION: 1 | TYPE OF TEST: VAT | TYP

EXPECTED MESSAGE SEQUENCE:



TEST DESCRIPTION

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

}	
2.	{
CHECK A: WAS THE SECOND CONTINUITY CHECK INITIATED WITHIN 1 TO 3 MINUTES? | | | | | |	
}	
3.	{
CHECK B: WERE THE MAINTENANCE STAFF ALERTED ON FAILURE OF THE SECOND CONTINUITY CHECK? | | | | | |	
}	
4.	{
CHECK C: WAS THE CHECK REPEATED AT INTERVALS OF 1 TO 3 MINUTES? | | | | | |	
}	
5.	{
CHECK D: WAS THE MESSAGE SEQUENCE AS ABOVE? | | | | | |	
}	

Tableau [T16.783], p.

H.T. [T17.783]
TUP LEVEL 4 TEST SPECIFICATION

TEST NUMBER: 1.4.4

REFERENCE: Q.724 § 7.5.3

{
TITLE: Continuity check test call
}

{
SUBTITLE: CCTC sent: unsuccessful
}

{
PURPOSE: To verify th
at the continuity test call procedure can be
correctly invoked
}

{
PRE-TEST CONDITIONS: Ensure th
at no backward tone is detected
within the specified timeout
}

CONFIGURATION: 1	TYPE OF TEST: VAT	T

EXPECTED MESSAGE SEQUENCE:

SP A SP E

CCR ----------> {

Check tone

---------- |

|

}

{

---------- | f | fR

}

CCF — ----------> {

T10

|

T10 | 1-3 minutes

T10

|

}

CCR — ----------> {

Check tone

---------- |

|

}

{

---------- | f | fR

}

CCF — ----------> {

T10

|

T10 | 1-3 minutes

T10

|

} Main

CCR — ----------> {

Check tone

---------- |

|

}

{

---------- | f | fR

} CCF	---------->
TEST DESCRIPTION	
1. Initiate the continuity test call procedure at SP A. Record the message sequence using a signal monitor. }	{
2. CHECK A: WAS THE SECOND CONTINUITY CHECK INITIATED WITHIN 1 TO 3 MINUTES? | | | | | | }	{
3. CHECK B: WERE THE MAINTENANCE STAFF ALERTED ON FAILURE OF THE SECOND CONTINUITY CHECK? | | | | | | }	{
4. CHECK C: WAS THE CHECK REPEATED AT INTERVALS OF 1 TO 3 MINUTES? | | | | | | }	{
5. CHECK D: WAS THE MESSAGE SEQUENCE AS ABOVE? | | | | | | }	{

Tableau [T17.783], p.

H.T. [T18.783]
TUP LEVEL 4 TEST SPECIFICATION

TEST NUMBER: 1.5.1

REFERENCE: Q.724 § 6.5

{
TITLE: Receipt of unreasonable information
}

SUBTITLE: Received

{
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: 1	TYPE OF TEST: VAT	TYPE OF SP: SP
EXPECTED MESSAGE SEQUENCE:		
SP A		SP B
a)		
	<----------	CLF
RLG	---------->	
b)		
	<----------	RLG
c)	<----------	UBL
UBA	---------->	

TEST DESCRIPTION

1. {
Arrange for SP B to send a clear forward signal.
}

2. {
CHECK A:
IS THE CIRCUIT IDLE? | | | | | |
}

3. {
CHECK B:
WAS THE MESSAGE SEQUENCE AS IN a) ABOVE? | | | | | |
}

4. {
Arrange for SP B to send a release guard signal.
}

5. {
CHECK C:
IS THE CIRCUIT IDLE? | | | | | |
}

6. {
CHECK D:
WAS THE MESSAGE SEQUENCE AS IN b) ABOVE? | | | | | |
}

7. {
Arrange for SP B to send an unblocking signal.
}

8. {
CHECK E:
IS THE CIRCUIT IDLE? | | | | | |

} 9. CHECK F: WAS THE MESSAGE SEQUENCE AS IN c) ABOVE? | | | | | | }	{

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

Tableau [T18.783], p.

H.T. [T19.783]
TUP LEVEL 4 TEST SPECIFICATION

TEST NUMBER: 2.1.1

REFERENCE: Q.724 § 1

{
TITLE: Both way circuit selection
}

{
SUBTITLE: IAM sent by controlling SP
}

{
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: 1	TYPE OF TEST: VAT and CPT	TYPE OF SP: SP

EXPECTED MESSAGE SEQUENCE:

SP A		SP B
IAM	---------->	
	<----------	ACM
	{	
|| fR		

}	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:
CAN RINGING TONE BE HEARD? | | | | | |
}

3. {
The called party should answer the call.
}

4. {
CHECK B:
IS SPEECH POSSIBLE? | | | | | |
}

5. {
The calling party should clear the call.
}

6. {
CHECK C:

IS THE CIRCUIT IDLE? | | | | | | } 7. CHECK D: WAS THE MESSAGE SEQUENCE AS ABOVE? | | | | | | }	{

Tableau [T19.783], p.

H.T. [T20.783]
TUP LEVEL 4 TEST SPECIFICATION

TEST NUMBER: 2.1.2

REFERENCE: Q.724 § 1

{
TITLE: Bothway circuit selection
}

{
SUBTITLE: IAM sent by non-controlling SP
}

{
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: 1	TYPE OF TEST: VAT and CPT	TYPE OF SP: SP
EXPECTED MESSAGE SEQUENCE:		
SP A		SP B
IAM	---------->	
	<----------	ACM
	{	
|| fR		

}	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:
CAN RINGING TONE BE HEARD? | | | | | |
}

3. {
The called party should answer the call.
}

4. {
CHECK B:
IS SPEECH POSSIBLE? | | | | | |
}

5. {
The calling party should clear the call.
}

6. {
CHECK C:

IS THE CIRCUIT IDLE? | | | | | | } 7. CHECK D: WAS THE MESSAGE SEQUENCE AS ABOVE? | | | | | | }	{

Tableau [T20.783], p.

H.T. [T21.783]
TUP LEVEL 4 TEST SPECIFICATION

TEST NUMBER: 2.2.1

REFERENCE: Q.724 § 1

{
TITLE: Called address sending
}

{
SUBTITLE: ‘‘EN BLOC’’ operation
}

{
PURPOSE: To verify that a call can be successfully established (all digits included in the IAM)
}

{
PRE-TEST CONDITIONS:
a)
Called termination is free
b)
The exchange data is arranged such that all digits are included in the IAM
}

CONFIGURATION: 1	TYPE OF TEST: VAT and CPT	TYPE OF SP: SP

EXPECTED MESSAGE SEQUENCE:

SP A		SP B
IAM	---------->	
	<----------	ACM
	{	
|| fR		

}	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:
IS RINGING TONE HEARD? | | | | | |
}

3. {
The called party should answer the call.
}

4. {
CHECK B:
IS SPEECH POSSIBLE? | | | | | |
}

5. {
The calling party should clear the call.
}

6. {
CHECK C:
IS THE CIRCUIT IDLE? | | | | | |
}

7. {
CHECK D:
WAS THE MESSAGE SEQUENCE AS

ABOVE? | | | | | | } 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. }	{

Tableau [T21.783], p.

H.T. [T22.783]
TUP LEVEL 4 TEST SPECIFICATION

TEST NUMBER: 2.2.2

REFERENCE: Q.724 § 1

{
TITLE: Called address sending
}

{
SUBTITLE: Overlap operation (with SAM and SAO)
}

{
PURPOSE: To verify that signalling point A can initiate a call using
an IAM followed by SAM 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: 1	TYPE OF TEST: VAT and CPT	TYPE OF SP: SP
EXPECTED MESSAGE SEQUENCE:		
SP A		SP B
IAM	---------->	
SAM	---------->	
SAO	---------->	
	<----------	ACM
	{	
|| fR ----------		
}	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:
IS RINGING TONE HEARD? | | | | | |
}

3. {
The called party should answer the call.
}

4. {
CHECK B:
IS SPEECH POSSIBLE? | | | | | |
}

5. {
The calling party should clear the call.
}

6. {
CHECK C:
IS THE CIRCUIT IDLE? | | | | | |
}

7. {

CHECK D: WAS THE MESSAGE SEQUENCE AS ABOVE? | | | | | }	
8. For validation testing repeat this test in the reverse direction. Note — The message flow may not be as above (There may be various SAMs and SAOs). }	{
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. }	{

Tableau [T22.783], p.

H.T. [T23.783]
TUP LEVEL 4 TEST SPECIFICATION

TEST NUMBER: 2.3.1

{
REFERENCE: Q.724 § 1.6 and 1.10
}

{
TITLE: Successful call set-up
}

{
SUBTITLE: Ordinary call (with various ACM and ANS)
}

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

{
PRE-TEST CONDITIONS: Called termination is free
}

CONFIGURATION: 1	TYPE OF TEST: VAT	TYPE OF SP: SP
EXPECTED MESSAGE SEQUENCE:		
SP A		SP B
IAM	---------->	
	<----------	ACM
	{	
|| fR		

}	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:
CAN RINGING TONE BE HEARD? | | | | | |
}

3. {
The called party should answer the call.
}

4. {
CHECK B:
IS SPEECH POSSIBLE? | | | | | |
}

5. {
The calling party should clear the call.
}

6. {
CHECK C:
IS THE CIRCUIT IDLE? | | | | | |
}

7. {
CHECK D:
WAS THE MESSAGE SEQUENCE AS ABOVE? | | | | | |
}

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. }	{

Tableau [T23.783], p.

H.T. [T24.783]
TUP LEVEL 4 TEST SPECIFICATION

TEST NUMBER: 2.3.2

REFERENCE: Q.724 § 1

{
TITLE: Successful call set-up
}

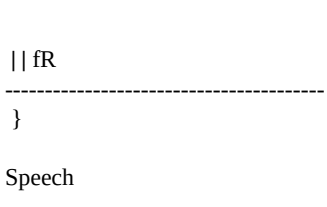
{
SUBTITLE: Call switched via a satellite
}

{
PURPOSE: To verify the satellite indicator in the initial address
message is correctly set
}

{
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: 1

EXPECTED MESSAGE SEQUENCE:



TEST DESCRIPTION

1. {
Make a call from SP A to SP B.
Record the message sequence using a signal monitor.
}

2. {
CHECK A:
IS RINGING TONE HEARD? | | | | | |
}

3. {
The called party should answer the call.
}

4. {
CHECK B:
IS SPEECH POSSIBLE? | | | | | | |
}

5. {
The calling party should clear the call.
}

6. {
CHECK C:
IS THE CIRCUIT IDLE? | | | | | |
}

7. {
CHECK D:
WAS THE MESSAGE SEQUENCE AS ABOVE? | | | | | |

}	
8.	{
CHECK E: WAS THE SATELLITE INDICATOR BIT IN THE IAM SET TO 1? | | | | | |	
}	
9.	{
For validation testing repeat this test in the reverse direction? | | | | | |	
}	

Tableau [T24.783], p.

H.T. [T25.783]
TUP LEVEL 4 TEST SPECIFICATION

TEST NUMBER: 2.3.3

REFERENCE: Q.724 § 11

{
TITLE: Successful call set-up
}

{
SUBTITLE: Test for echo suppressor call set-up
}

{
PURPOSE: To verify that a call can be successfully established with
the inclusion of echo 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: 1	TYPE OF TEST: VAT and CPT	TYPE OF SP: SP

EXPECTED MESSAGE SEQUENCE:

SP A		SP B
IAM	---------->	
	<----------	ACM
	{	
|| fR		

}	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:
IS RINGING TONE HEARD? | | | | | |
}

3. {
The called party should answer.
}

4. {
CHECK B:
IS SPEECH POSSIBLE? | | | | | |
}

5. {
CHECK C:
IS ECHO PERCEIVED BY EITHER PARTY? | | | | | |
}

6. {
The calling party should clear the call.
}

7. {
CHECK D:

IS THE CIRCUIT IDLE? | | | | | |	
}	
8.	{
CHECK E: WAS THE MESSAGE SEQUENCE AS ABOVE? | | | | | |	
}	
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.	
}	

Tableau [T25.783], p.

H.T. [T26.783]
TUP LEVEL 4 TEST SPECIFICATION

TEST NUMBER: 2.3.4

REFERENCE: Q.724 § 5

{
TITLE: Successful call set-up
}

{
SUBTITLE: Blocking and unblocking during a call (initiated)
}

{
PURPOSE: To verify that the circuit blocking and unblocking procedure
can be correctly initiated during a call
}

{
PRE-TEST CONDITIONS: Called termination is free
}

CONFIGURATION: 1	TYPE OF TEST: VAT and CPT	TYPE OF SP: SP

EXPECTED MESSAGE SEQUENCE:

SP A		SP B
IAM	---------->	
	<----------	ACM
	{	
|| fR		

}	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:
CAN RINGING TONE BE HEARD? | | | | | |
}

3. {
The called party should answer the call.
}

4. {
CHECK B:
IS SPEECH POSSIBLE? | | | | | |
}

5. {
SP A should initiate circuit blocking relating to the circuit used
for this call.
}

6. {
CHECK C:
IS SPEECH STILL POSSIBLE? | | | | | |

}

7. {
The calling party should clear the call.

}	
8.	{
CHECK D: VERIFY THAT A CALL CAN ONLY BE ORIGINATED ON THIS CIRCUIT BY SP A? | | | | |	
}	
9.	{
SP A should send an unblocking signal.	
}	
10.	{
CHECK E: VERIFY THAT A CALL CAN BE SUCCESSFULLY ORIGINATED FROM EITHER SP.	
}	
11.	{
CHECK F: WAS THE MESSAGE SEQUENCE AS ABOVE? | | | | |	
}	
12.	{
Repeat this test in the reverse direction.	
}	
	{
Note — The blocking signal may be generated after the call has cleared.	
}	

Tableau [T26.783], p.

H.T. [T27.783]
TUP LEVEL 4 TEST SPECIFICATION

TEST NUMBER: 2.3.5

REFERENCE: Q.724 § 5

{
TITLE: Successful call set-up
}

{
SUBTITLE: Blocking and unblocking during a call (received)
}

{
PURPOSE: To verify that the circuit blocking and unblocking procedure
can be correctly received during a call
}

{
PRE-TEST CONDITIONS: Called termination is free
}

CONFIGURATION: 1	TYPE OF TEST: VAT and CPT	TYPE OF SP: SP

EXPECTED MESSAGE SEQUENCE:

SP A		SP B
IAM	---------->	
	<----------	ACM
	{	
|| fR		

}	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:
CAN RINGING TONE BE HEARD? | | | | | |
}

3. {
The called party should answer the call.
}

4. {
CHECK B:
IS SPEECH POSSIBLE? | | | | | |
}

5. {
SP B should initiate circuit blocking relating to the circuit used
for this call.
}

6. {
CHECK C:
IS SPEECH STILL POSSIBLE? | | | | | |

}

7. {
The calling party should clear the call.

}	
8.	{
CHECK D: VERIFY THAT A CALL CAN ONLY BE ORIGINATED ON THIS CIRCUIT BY SP B? | | | | |	
}	
9.	{
SP B should send an unblocking signal.	
}	
10.	{
CHECK E: VERIFY THAT A CALL CAN BE SUCCESSFULLY ORIGINATED FROM EITHER SP.	
}	
11.	{
CHECK F: WAS THE MESSAGE SEQUENCE AS ABOVE? | | | | |	
}	
12.	{
Repeat this test in the reverse direction.	
}	
	{
Note — The blocking signal may be generated after the call has cleared.	
}	

Tableau [T27.783], p.

H.T. [T28.783]
TUP LEVEL 4 TEST SPECIFICATION

TEST NUMBER: 3.1		
REFERENCE: Q.724 § 1.14		
TITLE: Normal call release		

{
SUBTITLE: Calling party clears before address complete
}		

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

PRE-TEST CONDITIONS:		
CONFIGURATION: 1	TYPE OF TEST: VAT and CPT	TYPE OF SP: SP
EXPECTED MESSAGE SEQUENCE:		
SP A		SP B
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: IS THE CIRCUIT IDLE? | | | | | | }	{	
4. CHECK B: WAS THE MESSAGE SEQUENCE AS ABOVE? | | | | | | }	{	
5. Repeat this test in the reverse direction. }	{	

Tableau [T28.783], p.

H.T. [T29.783]
TUP LEVEL 4 TEST SPECIFICATION

TEST NUMBER: 3.2		
REFERENCE: Q.724 § 1.14		
TITLE: Normal call release		

{
SUBTITLE: Calling party clears before answer
}		

{
PURPOSE: To verify that the calling party can successfully release a call prior to receipt of answer
}		

{
PRE-TEST CONDITIONS: Called termination is free
}		

CONFIGURATION: 1	TYPE OF TEST: VAT and CPT	TYPE OF SP: SP
EXPECTED MESSAGE SEQUENCE:		
SP A		SP B
IAM	---------->	
	<----------	ACM
	{	
| | fR		

}	**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:** **IS RINGING TONE HEARD? | | | | | |** **}**	**{**	
3. **The calling party should clear the call prior to receipt of an answer signal.** **}**	**{**	
4. **CHECK B:** **IS THE CIRCUIT IDLE? | | | | | |** **}**	**{**	
5. **CHECK C:** **WAS THE MESSAGE SEQUENCE AS ABOVE? | | | | | |** **}**	**{**	
6. **For validation testing this test should be repeated in the reverse direction.** **}**	**{**	

Tableau [T29.783], p.

H.T. [T30.783]
TUP LEVEL 4 TEST SPECIFICATION

TEST NUMBER: 3.3		
REFERENCE: Q.724 § 1.14		
TITLE: Normal call release		

{
SUBTITLE: Calling party clears after answer
}		

{
PURPOSE: To verify that the calling party can successfully
release a call in the speech state
}		

{
PRE-TEST CONDITIONS: Called termination is free
}		

CONFIGURATION: 1	TYPE OF TEST: VAT and CPT	TYPE OF SP: SP
EXPECTED MESSAGE SEQUENCE: SP A IAM || fR ---------- } Speech _____ } CLF	 ----------> <---------- { Ringing tone <---------- { Speech ----------> <----------	SP B ACM ANC RLG
TEST DESCRIPTION		
1. Make a call from SP A to SP B. Record the message sequence using a signal monitor. } 2. CHECK A: IS RINGING TONE HEARD? | | | | | | } 3. The called party should answer the call. } 4. CHECK B: IS SPEECH POSSIBLE? | | | | | | } 5. The calling party should clear the call. } 6. CHECK C: IS THE CIRCUIT IDLE? | | | | | | } 7. CHECK D: WAS THE MESSAGE SEQUENCE AS ABOVE? | | | | | | } 8. For validation testing this test should be repeated in the reverse direction. }	{ { { { { { {	

Tableau [T30.783], p.

H.T. [T31.783]
TUP LEVEL 4 TEST SPECIFICATION

TEST NUMBER: 3.4

REFERENCE: Q.724 § 1.14

TITLE: Normal call release

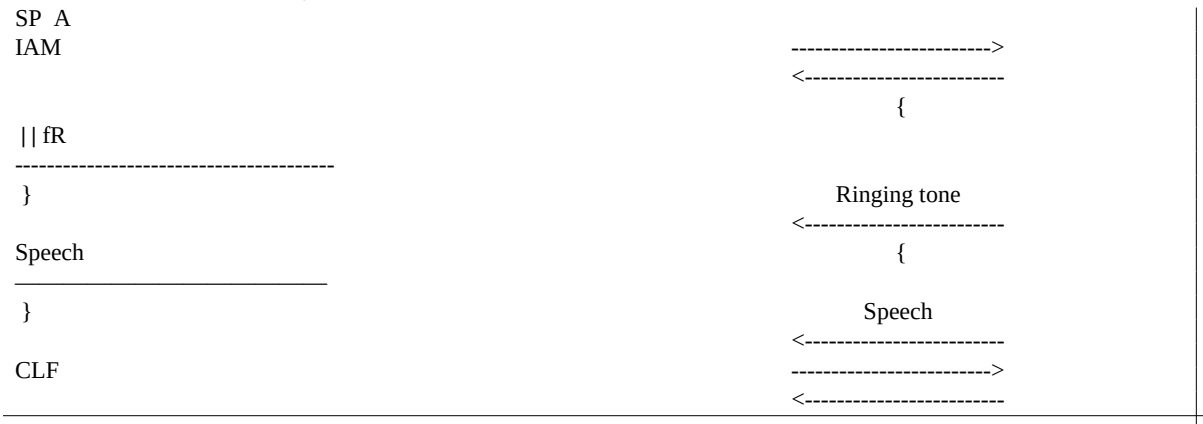
{
SUBTITLE: Called party clears
}

{
PURPOSE: To verify that the calling party can successfully release a call in the clear back state
}

{
PRE-TEST CONDITIONS: Called termination is free
}

CONFIGURATION: 1	TYPE OF TEST: VAT and CPT	TYPE OF SP: SP

EXPECTED MESSAGE SEQUENCE:



TEST DESCRIPTION

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

2. { CHECK A: IS RINGING TONE HEARD? | | | | | | }

3. { The called party should answer the call. }

4. { CHECK B: IS SPEECH POSSIBLE? | | | | | | }

5. { The called party should clear the call. }

6. { The calling party should clear the call. }

7. { CHECK C: IS THE CIRCUIT IDLE? | | | | | | }

8. { CHECK D: WAS THE MESSAGE SEQUENCE AS ABOVE? | | | | | | }

9. { For validation testing repeat this test in the reverse

direction. }	

Tableau [T31.783], p.

H.T. [T32.783]
TUP LEVEL 4 TEST SPECIFICATION

TEST NUMBER: 3.5

REFERENCE: Q.724 § 1.14

TITLE: Normal call release

{
SUBTITLE: Called party clears and reanswers
}

{
PURPOSE: To verify that the called subscriber can successfully
clear and reanswer a call in the speech state
}

{
PRE-TEST CONDITIONS: Called termination is free
}

CONFIGURATION: 1	TYPE OF TEST: VAT and CPT	TYPE OF SP: SP

EXPECTED MESSAGE SEQUENCE:

SP A		SP B
IAM	---------->	
	<----------	ACM
	{	
|| fR		

}	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:
IS RINGING TONE HEARD? | | | | | |
}
3. {
The called party should answer the call.
}
4. {
CHECK B:
IS SPEECH POSSIBLE? | | | | | |
}
5. {
The called party should clear the call.
}
6. {
The called party should reanswer the call.
}
7. {
CHECK C:
IS SPEECH STILL POSSIBLE? | | | | | |

}
8. {

The calling party should clear the call. }	
9. CHECK D: IS THE CIRCUIT IDLE? | | | | |	{
}	
10. CHECK E: WAS THE MESSAGE SEQUENCE AS ABOVE? | | | | |	{
}	
11. For validation testing repeat this test in the reverse direction.	{
}	

Tableau [T32.783], p.

H.T. [T33.783]
TUP LEVEL 4 TEST SPECIFICATION

TEST NUMBER: 4.1.1		
REFERENCE: Q.724 § 1.8		
TITLE: SEC		
SUBTITLE: SEC received		

{
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:
Arrange the data in signalling point B such that switching equipment congestion is returned to the request
}		

CONFIGURATION: 1	TYPE OF TEST: VAT	TYPE OF
EXPECTED MESSAGE SEQUENCE: SP A IAM CLF TEST DESCRIPTION	 ----------> <---------- ----------> <----------	SP B SEC RLG
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: IS THE CIRCUIT IDLE? | | | | | | }	{	
4. CHECK C: WAS THE MESSAGE SEQUENCE AS ABOVE? | | | | | | }	{	
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. }	{	

Tableau [T33.783], p.

H.T. [T34.783]
TUP LEVEL 4 TEST SPECIFICATION

TEST NUMBER: 4.1.2		
REFERENCE: Q.724 § 1.8		
TITLE: SEC		
SUBTITLE: SEC sent		

{
PURPOSE: To verify that SP A is able to generate a switching equipment congestion message
}		

{
PRE-TEST CONDITIONS:
Arrange the data in SP A such that switching equipment congestion is returned to the call request
}		

CONFIGURATION: 1	TYPE OF TEST: VAT	TYPE OF
EXPECTED MESSAGE SEQUENCE:		
SP A		SP B
	<----------	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: IS THE CIRCUIT IDLE? | | | | | | }	{	
4. CHECK C: WAS THE MESSAGE SEQUENCE AS ABOVE? | | | | | | }	{	
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. }		

Tableau [T34.783], p.

H.T. [T35.783]
TUP LEVEL 4 TEST SPECIFICATION

TEST NUMBER: 4.2.1

REFERENCE: Q.724 § 1.8

TITLE: CGC

SUBTITLE: CGC received

{
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:
Arrange the data in signalling point B
such that a circuit group congestion signal is returned to the
call request
}

CONFIGURATION: 1	TYPE OF TEST: VAT	TYPE OF
EXPECTED MESSAGE SEQUENCE:		
SP A		SP B
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: IS THE CIRCUIT IDLE? | | | | | | }	{	
4. CHECK C: WAS THE MESSAGE SEQUENCE AS ABOVE? | | | | | | }	{	
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. }		

Tableau [T35.783], p.

H.T. [T36.783]
TUP LEVEL 4 TEST SPECIFICATION

TEST NUMBER: 4.2.2		
REFERENCE: Q.724 § 1.8		
TITLE: CGC		
SUBTITLE: CGC sent		

{
PURPOSE: To verify that SP A is able to generate a
circuit group congestion signal
}		

{
PRE-TEST CONDITIONS:
Arrange the data in signalling point A
such that a circuit group congestion signal is returned to the
call request
}		

CONFIGURATION: 1	TYPE OF TEST: VAT	TYPE OF
EXPECTED MESSAGE SEQUENCE:		
SP A		SP B
	<----------	IAM
CGC	---------->	
	<----------	CLF
RLG	---------->	
TEST DESCRIPTION		
1. Attempt to make a call from SP B to SP A. 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: IS THE CIRCUIT IDLE? | | | | | |	{	
}		
4. CHECK C: WAS THE MESSAGE SEQUENCE AS ABOVE? | | | | | |	{	
}		
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.	{	
}		

Tableau [T36.783], p.

H.T. [T37.783]
TUP LEVEL 4 TEST SPECIFICATION

TEST NUMBER: 4.3.1

REFERENCE: Q. 724 § 1.8

TITLE: NNC

SUBTITLE: NNC received

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

{
PRE-TEST CONDITIONS:
Arrange the data in SP B such that a national network congestion signal is returned to the call request
}

CONFIGURATION: 1	TYPE OF TEST: VAT	TYPE OF SP: SP
EXPECTED MESSAGE SEQUENCE:		
SP A		SP B
IAM	---------->	
	<----------	NNC
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: IS THE CIRCUIT IDLE? | | | | | |	{ }
4. CHECK C: WAS THE MESSAGE SEQUENCE AS ABOVE? | | | | | |	{ }
Note 1 — An address complete signal (without subscriber free) may be sent in the backward direction before a NNC 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.	{ }

Tableau [T37.783], p.

H.T. [T38.783]
TUP LEVEL 4 TEST SPECIFICATION

TEST NUMBER: 4.3.2		
REFERENCE: Q.724 § 1.8		
TITLE: NNC		
SUBTITLE: NNC sent		

{
PURPOSE: To verify that SP A is able to generate a national network congestion signal
}		

{
PRE-TEST CONDITIONS:
Arrange the data in signalling point A such that a national network congestion signal is returned to the call request, where SP A is now an I/C exchange
}		

CONFIGURATION: 1	TYPE OF TEST: VAT	TYPE OF SP: SP
EXPECTED MESSAGE SEQUENCE:		
SP A		SP B
	<----------	IAM
NNC	---------->	
	<----------	CLF
RLG	---------->	
TEST DESCRIPTION		
1. Attempt to make a call from SP B to SP A.	{	
}		
2. CHECK A: IS THE APPROPRIATE TONE OR ANNOUNCEMENT RETURNED TO THE CALLING PARTY? | | | | |	{	
}		
3. CHECK B: IS THE CIRCUIT IDLE? | | | | |	{	
}		
4. CHECK C: WAS THE MESSAGE SEQUENCE AS ABOVE? | | | | |	{	
}		
Note 1 — An address complete signal (without subscriber free) may be sent in the backward direction before a NNC 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.	{	
}		

Tableau [T38.783], p.

H.T. [T39.783]
TUP LEVEL 4 TEST SPECIFICATION

TEST NUMBER: 4.4.1

REFERENCE: Q.724 § 1.7

TITLE: ADI

SUBTITLE: ADI received

{
PURPOSE:
To verify that on receipt of an address incomplete message
the call is immediately released and the correct indication given to
the calling party
}

{
PRE-TEST CONDITIONS:
Signalling point B should be able to
determine that the proper number of digits has not been
received
}

CONFIGURATION: 1	TYPE OF TEST: VAT and CPT	TYPE OF SP: SP
EXPECTED MESSAGE SEQUENCE:		
SP A		SP B
IAM	---------->	
	<----------	ADI
CLF	---------->	
	<----------	RLG
TEST DESCRIPTION		
1. Make a call from SP A to SP B, but do not enter the final digit. Record the message sequence using a signal monitor. }	{	
2. CHECK A: WAS THE CORRECT TONE OR ANNOUNCEMENT SENT TO THE CALLING SUBSCRIBER? | | | | | | }	{	
3. CHECK B: IS THE CIRCUIT IDLE? | | | | | | }	{	
4. CHECK C: WAS THE MESSAGE SEQUENCE AS ABOVE? | | | | | | }	{	
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. }		

Tableau [T39.783], p.

H.T. [T40.783]
TUP LEVEL 4 TEST SPECIFICATION

TEST NUMBER: 4.4.2		
REFERENCE: Q.724 § 1.7		
TITLE: ADI		
SUBTITLE: ADI sent		

{
PURPOSE: To verify that signalling point A is able to generate an address incomplete signal
}		

{
PRE-TEST CONDITIONS: SP A should be able to determine that the proper number of digits has not been received
}		

CONFIGURATION: 1	TYPE OF TEST: VAT and CPT	TYPE OF SP: SP
EXPECTED MESSAGE SEQUENCE:		
SP A		SP B
	<----------	IAM
ADI	---------->	
	<----------	CLF
RLG	---------->	
TEST DESCRIPTION		
1. Make a call from SP B to SP A, but do not enter the final digit. Record the message sequence using a signal monitor. }	{	
2. CHECK A: WAS THE CORRECT TONE OR ANNOUNCEMENT SENT TO THE CALLING SUBSCRIBER? | | | | | | }	{	
3. CHECK B: IS THE CIRCUIT IDLE? | | | | | | }	{	
4. CHECK C: WAS THE MESSAGE SEQUENCE AS ABOVE? | | | | | | }	{	
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. }		

Tableau [T40.783], p.

H.T. [T41.783]
TUP LEVEL 4 TEST SPECIFICATION

TEST NUMBER: 4.5.1

REFERENCE: Q.724 § 6.3

TITLE: CFL

SUBTITLE: CFL received

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

{
PRE-TEST CONDITIONS:
Arrange the data in signalling point B such that a call failure signal is returned to the call request
}

CONFIGURATION: 1	TYPE OF TEST: VAT	TYPE OF SP: SP

EXPECTED MESSAGE SEQUENCE:

SP A		SP B
IAM	---------->	
	<----------	CFL
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: IS THE CALL IDLE? | | | | | | }	{
4. CHECK C: WAS THE MESSAGE SEQUENCE AS ABOVE? | | | | | | }	{
Note 1 — An address complete signal may be sent in the backward direction before a CFL 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. }	

Tableau [T41.783], p.

H.T. [T42.783]
TUP LEVEL 4 TEST SPECIFICATION

TEST NUMBER: 4.5.2

REFERENCE: Q.724 § 6.3

TITLE: CFL

SUBTITLE: CFL sent

{
PURPOSE: To verify that signalling point A is able to generate
a call failure signal
}

{
PRE-TEST CONDITIONS: Arrange the data in SP A such that a
call failure signal is returned to the call
request
}

CONFIGURATION: 1	TYPE OF TEST: VAT	TYPE OF SP: SP
EXPECTED MESSAGE SEQUENCE:		
SP A		SP B
	<----------	IAM
CFL	---------->	
	<----------	CLF
RLG	---------->	
TEST DESCRIPTION		
1. Attempt to make a call from SP B to SP A. 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: IS THE CALL IDLE? | | | | | | }	{	
4. CHECK C: WAS THE MESSAGE SEQUENCE AS ABOVE? | | | | | | }	{	
Note 1 — An address complete signal may be sent in the backward direction before a CFL 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. }	{	

Tableau [T42.783], p.