H.T. [T47.781]
MTP LEVEL 2

TEST NUMBER: 3.4	PAGE: 1 OF 1

{
REFERENCE: Q.703 § 5.3, 8
STD: Fig. 8
}	

TITLE: Transmission failure	

{
SUB TITLE: Link aligned not ready (Corrupt FIBs —
Basic)
}	

{
PURPOSE:
To check the response to a link failure after corruption
of two FIBs — detected by reception control — while in
''Aligned not ready''
}	

{
PRE-TEST CONDITIONS: Link out of service
}	

CONFIGURATION: 1	TYPE OF TEST: VAT

{
EXPECTED SIGNAL UNIT SEQUENCE:
}	

Link	SP B		Link	SP A
		<------------------------	1 — 0	SIOS
1 — 0	SIOS	------------------------>		
				: | et LPO
				: | tart
		<------------------------	1 — 0	SIO
1 — 0	SIO	------------------------>		
		<------------------------	1 — 0	SIN
1 — 0	SIN	------------------------>		
		<------------------------	1 — 0	SIPO
1 — 0	FISU corrupt FIB (FIB+FSN=7F)	------------------------>		
1 — 0	FISU corrupt FIB (FIB+FSN=7F)	------------------------>		
		<------------------------	1 — 0	SIOS

TEST DESCRIPTION

1. 2. 3. Send two corrupt FISUs (corrupt FIBs) on link aligned not ready. } 4. Check link is taken out of service at A. }	Set LPO at A. Start link alignment at A. { {

Tableau [T47.781], p.

TEST NUMBER: 3.5	PAGE: 1 OF 1

{
REFERENCE: Q.703 § 4, 10.2
STD: Fig. 8
}	

TITLE: Transmission failure	

{
SUB TITLE: Link in service (Break Tx
path)
}	

{
PURPOSE:
To test the response to a transmission failure when
the link is ''In service''
}	

{
PRE-TEST CONDITIONS: Link in service
}	

CONFIGURATION: 1	TYPE OF TEST: VAT, CPT

{
EXPECTED SIGNAL UNIT SEQUENCE:
}

Link 1 — 0	SP B FISU : break Tx	<------------------------- -------------------------> <-------------------------	Link 1 — 0 SIOS	SP A FISU
TEST DESCRIPTION				

1. Break Tx at B, check SIOS returned from A. } 2.	{ Repeat test, break at A.

Tableau [T48.781], p.

TEST NUMBER: 3.6	PAGE: 1 OF 1

{
REFERENCE: Q.703 § 5.3
STD: Fig. 8
}	

TITLE: Transmission failure	

{
SUB TITLE: Link in service (Corrupt FIBs —
Basic)
}	

{
PURPOSE:
To check the response to a link failure after corruption
of two FIBS — detected by reception control — while
''In service''
}	

{
PRE-TEST CONDITIONS: Link in service
}	

CONFIGURATION: 1	TYPE OF TEST: VAT

{
EXPECTED SIGNAL UNIT SEQUENCE:
}

Link	SP B		Link	SP A
		<-----------------------	1 — 0	FISU
1 — 0	FISU (FIB+FISN=FF)	----------------------->		
1 — 0	FISU corrupt FIB (FIB+FSN=7F)	----------------------->		
1 — 0	FISU corrupt FIB (FIB+FSN=7F)	----------------------->		
		<-----------------------	1 — 0	SIOS

TEST DESCRIPTION

1. Check that receipt of two FISUs at A with corrupt FIBs at link in service state causes the link to be taken out of service. }	{

Tableau [T49.781], p.

TEST NUMBER: 3.7	PAGE: 1 OF 1

{
 REFERENCE: Q.703 § 8, 10.2
 STD: Fig. 8
 }	

TITLE: Transmission failure	

{
 SUB TITLE: Link in processor outage (Break Tx
 path)
 }	

{
 PURPOSE:
 To test the response to a transmission failure when
 the link is ''Processor outage''
 }	

{
 PRE-TEST CONDITIONS: Link in service
 }	

CONFIGURATION: 1	TYPE OF TEST: VAT

{
 EXPECTED SIGNAL UNIT SEQUENCE:
 }	

```
          SP  B                              SP  A
 Link                          Link
                  <------------------------   1 — 0    FISU
 1 — 0    FISU    ------------------------>
                                                        : | et LPO
                  <------------------------   1 — 0     SIPO
          : break Tx
                  <------------------------   1 — 0     SIOS
```

TEST DESCRIPTION

1. Break Tx path at B when in ''Processor outage'' state, check that the SUERM detects the failure and the link is taken out of service. } 2.	{ Repeat test, break TX at A.

TEST NUMBER: 3.8	PAGE: 1 OF 1

{
REFERENCE: Q.703 § 5.3, 8
STD: Fig. 8
}	

TITLE: Transmission failure	

{
SUB TITLE: Link in processor outage (Corrupt FIBs —
Basic)
}	

{
PURPOSE:
To check the response to a link failure after corruption
of two FIBs — detected by reception control — while in
''Processor outage''
}	

{
PRE-TEST CONDITIONS: Link in service
}	

CONFIGURATION: 1	TYPE OF TEST: VAT

{
EXPECTED SIGNAL UNIT SEQUENCE:
}	

Link	SP B		Link	SP A
		<-----------------------	1 — 0	FISU
1 — 0	FISU	----------------------->		
				: | et LPO
		<-----------------------	1 — 0	SIPO
1 — 0	FISU corrupt FIB (FIB+FSN=7F)	----------------------->		
1 — 0	FISU corrupt FIB (FIB+FSN=7F)	----------------------->		
		<-----------------------	1 — 0	SIOS

TEST DESCRIPTION

1. Check that receipt of two FISUs at A with corrupt FIBs on processor outage state causes the link to be taken out of service. }	{

Tableau [T51.781], p.

TEST NUMBER: 4.1	PAGE: 1 OF 1

{
REFERENCE: Q.703 § 8
STD: Fig. 10
}	

{
TITLE: Processor outage control
}	

{
SUB TITLE: Set and clear LPO while link
in service
}	

{
PURPOSE:
To check the ability to perform correctly when LPO
is set and recovered
}	

{
PRE-TEST CONDITIONS: Link in service
}	

CONFIGURATION: 1	TYPE OF TEST: VAT

{
EXPECTED SIGNAL UNIT SEQUENCE:
}	

	SP B		SP A
Link			Link
		<------------------------	1 — 0 FISU
1 — 0	FISU	------------------------>	
			: | et LPO
		<------------------------	1 — 0 SIPO
			: | lear LPO
		<------------------------	1 — 0 FISU
		<------------------------	1 — 0 MSU (FIB+FSN=80)

TEST DESCRIPTION

1. Set LPO at A while link in service. }	{
2.	Check message is discarded.
3.	Clear LPO at A.
4.	Check MSU is sent correctly.

Tableau [T52.781], p.

TEST NUMBER: 4.2	PAGE: 1 OF 1

{
REFERENCE: Q.703 § 8
STD: Fig. 10
}	

{
TITLE: Processor outage control
}	

SUB TITLE: RPO during LPO	

{
PURPOSE: To test the response to RPO is set and cleared
when ''LPO''
}	

{
PRE-TEST CONDITIONS: Link in service. PO set at B
}	

CONFIGURATION: 1	TYPE OF TEST: VAT

{
EXPECTED SIGNAL UNIT SEQUENCE:
}	

Link	SP B		Link	SP A
				: | et LPO
		<------------------------ ------------------------>	1 — 0	SIPO
1 — 0	SIPO	<------------------------	1 — 0	SIPO
	: | lear LPO			
1 — 0	FISU	------------------------>		
		<------------------------	1 — 0	SIPO

TEST DESCRIPTION	
1.	Set LPO at A.
2.	Clear LPO at B.
3.	Check is SIPO sent from A.

Tableau [T53.781], p.

TEST NUMBER: 4.3	PAGE: 1 OF 1

{
 REFERENCE: Q.703 § 8
 STD: Fig. 10
 }	

{
 TITLE: Processor outage control
 }	

{
 SUB TITLE: Clear LPO when ''Both processor outage''
 }	

{
 PURPOSE: To test the response to LPO, RPO recovered when
 ''Both processor outage''
 }	

{
 PRE-TEST CONDITIONS: PO set at A and B
 }	

CONFIGURATION: 1	TYPE OF TEST: VAT

{
 EXPECTED SIGNAL UNIT SEQUENCE:
 }	

Link	SP B		Link	SP A
		<----------------------- ----------------------->	1 — 0	SIPO
1 — 0	SIPO			: | lear LPO
		<-----------------------	1 — 0	FISU
	: | lear LPO			
1 — 0	FISU	----------------------->		
		<-----------------------	1 — 0	FISU

TEST DESCRIPTION	
1.	Clear LPO at A.
2.	Clear LPO at B.
3.	Check is FISU sent from A.

Tableau [T54.781], p.

TEST NUMBER: 5.1	PAGE: 1 OF 1

{
REFERENCE: Q.703 § 4.1
STD: Fig. 11
}	

{
TITLE: SU delimitation, alignment, error detection and
correction
}	

{
SUB TITLE: More than seven '1's between MSU opening and closing
flags
}	

{
PURPOSE:
To test the signal unit delimitation, alignment, and error
detection action on receipt of an MSU containing seven or more
consecutive '1's
}	

{
PRE-TEST CONDITIONS: Link in service
}	

CONFIGURATION: 1	TYPE OF TEST: VAT

{
EXPECTED SIGNAL UNIT SEQUENCE:
}	

Link	SP B	
		<------------------------- ------------------------->
1 — 0	FISU	
1 — 0	{	
corrupt MSU		
(FIB+FSN=80)		
(containing seven		
consecutive '1's)		
}	------------------------->	
		<------------------------- ------------------------->
1 — 0	FISU	

TEST DESCRIPTION	
1. Send a corrupt MSU at B containing seven consecutive '1's. }	{
2. Check that A discards the signal unit, and goes into octet counting mode. }	{
3. On reception of a correct FISU, check that A leaves the octet counting mode and remains in the ''in service'' state. }	{

Tableau [T55.781], p.

TEST NUMBER: 5.2	PAGE: 1 OF 1

{
REFERENCE: Q.703 § 4.1
STD: Fig. 11
}	

{
TITLE: SU delimitation, alignment, error detection and
correction
}	

{
SUB TITLE: Greater than maximum signal unit length
}	

{
PURPOSE:
To test the signal unit delimitation, alignment, error
detection action on receipt of signal unit greater than the maximum
length
}	

{
PRE-TEST CONDITIONS: Link in service
}	

CONFIGURATION: 1	TYPE OF TEST: VAT

{
EXPECTED SIGNAL UNIT SEQUENCE:
}	

	SP B	
Link		<----------------------
1 — 0	FISU	-----------------------
1 — 0	{	
corrupt MSU		
(FIB+FSN=80)		
(signal unit length > max. allowed)		
}	---------------------->	
		<----------------------
1 — 0	FISU	-----------------------

TEST DESCRIPTION	
1. Send corrupt MSU at B with maximum length plus extra bits and good sumcheck. }	{
2. Check A discards the signal unit, and goes into octet counting mode. }	{
3. On reception of a correct FISU, check that A leaves the octet counting mode and remains in the ''in service'' state. }	{

Tableau [T56.781], p.

TEST NUMBER: 5.3	PAGE: 1 OF 1

{
 REFERENCE: Q.703 § 4.1
 STD: Fig. 11
 }	

{
 TITLE: SU delimitation, alignment, error detection and
 correction
 }	

{
 SUB TITLE: Below minimum signal unit length
 }	

{
 PURPOSE:
 To test the signal unit delimitation, alignment and error
 detection action on receipt of signal unit less than the minimum
 length
 }	

{
 PRE-TEST CONDITIONS: Link in service
 }	

CONFIGURATION: 1	TYPE OF TEST: VAT

{
 EXPECTED SIGNAL UNIT SEQUENCE:
 }	

	SP B	
Link		<------------------------
1 — 0	FISU	------------------------>
1 — 0	{	
corrupt MSU		
(FIB+FSN=80)		
(signal unit less than 6 octets)		
}	------------------------>	
		<------------------------
1 — 0	FISU	------------------------>

TEST DESCRIPTION	
1. Generate a corrupt MSU at B of less than 6 octets (i.e. less than 5 octets between flags). }	{
2. Check A discards the signal unit, and goes into octet counting mode. }	{
3. On reception of a correct FISU, check that A leaves the octet counting mode and remains in the ''in service'' state. }	{

Tableau [T57.781], p.

TEST NUMBER: 5.4	PAGE: 1 OF 1

{
REFERENCE: Q.703 § 2
STD: Fig. 11
}	

{
TITLE: SU delimitation, alignment, error detection and
correction
}	

{
SUB TITLE: Reception of single and multiple flags between
FISUs
}	

{
PURPOSE: To check that single and multiple flags between
FISUs can be received
}	

{
PRE-TEST CONDITIONS: Link in service
}	

CONFIGURATION: 1	TYPE OF TEST: VAT

{
EXPECTED SIGNAL UNIT SEQUENCE:
}	

	SP B	
Link 1 — 0	FISU case 1 case 2	----------------------> FISU F FISU FISU F F FISU n(≥"2
F: Flag n=number of flags } 1 — 0	FISU	---------------------->
TEST DESCRIPTION		

1.
Check that single and n flags, case 1 and case 2 respectively, can be
received.
}
	{
	
	}	

Tableau [T58.781], p.

TEST NUMBER: 5.5	PAGE: 1 OF 1

{
REFERENCE: Q.703 § 2
STD: Fig. 11
}	

{
TITLE: SU delimitation, alignment, error detection and
correction
}	

{
SUB TITLE: Reception of single and multiple flags between MSUs
}	

{
PURPOSE: To check that single and multiple flags between MSUs can be
received
}	

{
PRE-TEST CONDITIONS: Link in service
}	

CONFIGURATION: 1	TYPE OF TEST: VAT

{
EXPECTED SIGNAL UNIT SEQUENCE:
}	

	SP B	
Link 1 — 0	FISU case 1 case 2	------------------------> MSU F MSU MSU F F MSU n(≥"2
F: Flag n=number of flags }		
1 — 0	FISU	------------------------>

TEST DESCRIPTION	

1.
Check that single and n flags, case 1 and case 2 respectively, can be
received.
}
	{
	
	}

TEST NUMBER: 6.1	PAGE: 1 OF 1

{
REFERENCE: Q.703 § 10.2
STD: Fig. 11, Fig. 18, Fig. 8
}	

TITLE: SUERM check	

{
SUB TITLE: Error rate of 1 in 256 — Link remains in service
}	

{
PURPOSE: To check the SUERM at a link error rate of 1 in
256 units
}	

{
PRE-TEST CONDITIONS: Link in service
}	

CONFIGURATION: 1	TYPE OF TEST: VAT

{
EXPECTED SIGNAL UNIT SEQUENCE:
}	

	SP B	
Link		
1 — 0	FISU	<---------------------- ---------------------->
	|	
Ct	{	
| | corrupt 1		
| | fB:		
in 256		
}		
	|	

TEST DESCRIPTION	
1. Check that ''In service'' state is maintained. The test should run for several minutes. }	{
2.	Ct = the count of corrupted FISUs.

Note — 1) The number *(x)* of corrupt signal units before an SIOS returned is calculated according to the following formula (a = number of correct signal units):

$$x = [\text{Unable to Convert Formula}] \left[\$\$1o\ 256\ x\ 64\ \$\$2u \frac{56}{+a} - 1\ \$\$2e \right] \text{ for } a < 256$$

2) In this case as $a = 255$, so $x = $ infinity.

TEST NUMBER: 6.2	PAGE: 1 OF 1

{
REFERENCE: Q.703 § 10.2
STD: Fig. 11, Fig. 18, Fig. 8
}	

TITLE: SUERM check	

{
SUB TITLE: Error rate of 1 in 254 — Link out of
service
}	

{
PURPOSE: To check the SUERM at a link error rate of 1 in
254 units
}	

{
PRE-TEST CONDITIONS: Link in service
}	

CONFIGURATION: 1	TYPE OF TEST: VAT

{
EXPECTED SIGNAL UNIT SEQUENCE:
}	

Link	SP B		Link
		<------------------------	1 —
1 — 0	FISU | {	------------------------>	
| | corrupt 1 | | fB: in 254 } Ct			
	|	<-----------------------	1 —

TEST DESCRIPTION	
1. SIOS should be returned after approx. 8192 corrupt FISUs (eg. CRC error). }	{
2. Ct = the count of corrupted FISUs. }	{

TEST NUMBER: 6.3	PAGE: 1 OF 1

{
 REFERENCE: Q.703 § 10.2
 STD: Fig. 11, Fig. 18, Fig. 8
 }	

TITLE: SUERM check	

{
 SUB TITLE: Consecutive corrupted SUs
 }	

{
 PURPOSE: To test the SUERM on consecutive corrupted signal
 units
 }	

{
 PRE-TEST CONDITIONS: Link in service
 }	

CONFIGURATION: 1	TYPE OF TEST: VAT

{
 EXPECTED SIGNAL UNIT SEQUENCE:
 }	

	SP B		Link
Link		<------------------------	1 — 0
1 — 0	FISU	------------------------>	
	{		
|			
| | corrupt 1			
| | fB:			
in 1			
}			
Ct	|		
		<------------------------	1 — 0

TEST DESCRIPTION	
1. SIOS should be returned after approx. 64 corrupt FISUs (eg. CRC error). }	{
2. Ct = the count of corrupted FISUs. }	{

TEST NUMBER: 6.4	PAGE: 1 OF 1

{
REFERENCE: Q.703 § 10.2
STD: Fig. 11, Fig. 18
}	

TITLE: SUERM check	

{
SUB TITLE: Time controlled break of the link
}	

{
PURPOSE: To check response to a range of time controlled breaks of
Tx or Rx
}	

{
PRE-TEST CONDITIONS: Link in service
}	

CONFIGURATION: 1	TYPE OF TEST: VAT

{
EXPECTED SIGNAL UNIT SEQUENCE:
}	

	SP B	
Link		<-----------------------
1 — 0	FISU : break Tx : restore Tx FISU	----------------------- ----------------------- <-----------------------

TEST DESCRIPTION	
1. Break the transmission link, and restore before level 2 goes out of service. (Break time is less than approx. 128ms for 64 kbit/s). }	{
2. Check that A enters and leaves the octet counting mode on reception of an FISU. }	{

Tableau [T63.781], p.

TEST NUMBER: 7.1	PAGE: 1 OF 1

{
REFERENCE: Q.703 § 10.3
STD: Fig. 9, Fig. 11, Fig. 17
}	

TITLE: AERM check	

{
SUB TITLE: Error rate below the normal threshold
}	

{
PURPOSE: To test the AERM on error rates below the normal
threshold
}	

{
PRE-TEST CONDITIONS: Link out of service
}	

CONFIGURATION: 1	TYPE OF TEST: VAT

{
EXPECTED SIGNAL UNIT SEQUENCE:
}	

	SP B	
Link		<-------------------------
		-------------------------
1 — 0	SIOS	
{		
.		
1 — 0		
1 — 0		
1 — 0		
1 — 0		
}	{	
.		
SIO		
SIN		
corrupt LSSUs		
SIN		
}	{	
<------------------------		
------------------------>		
<------------------------		
------------------------>		
------------------------>		
------------------------>		
<------------------------		
}	1 — 0 1 — 0 1 — 0	{
SIO		
SIN		
|		
|		
| T4		
|		
|		
FISU		
}		

TEST DESCRIPTION	
1.	Start link at A.
2.	{
Generate x number of corrupt LSSUs (e.g. CRC error) at B.(x < Tin).	
}	
3.	{
Check that the proving period continues and the link	
aligns successfully.	
}	

TEST NUMBER: 7.2	PAGE: 1 OF 1

{
REFERENCE: Q.703 § 10.3
STD: Fig. 9, Fig. 11, Fig. 17
}	

TITLE: AERM check	

{
SUB TITLE: Error rate at the normal threshold
}	

{
PURPOSE: To test the AERM at an error rate equal to the normal
threshold
}	

{
PRE-TEST CONDITIONS: Link out of service
}	

CONFIGURATION: 1	TYPE OF TEST: VAT

{
EXPECTED SIGNAL UNIT SEQUENCE:
}	

	SP B	
Link		<--------------------- ---------------------
1 — 0	SIOS	
		<--------------------- ---------------------
1 — 0	SIO	
		<--------------------- ---------------------
1 — 0	SIN	---------------------
1 — 0	corrupt LSSUs	---------------------
	SIN	{
----------------------> <-----------------------		
}	. 1 — 0	| | T4 |FISU

TEST DESCRIPTION	
1. 2. Generate x number of corrupt LSSUs (e.g. CRC error) at B.(x ≥" Tin). } 3. Check that the proving period is aborted, then restarted and link aligns successfully. }	Start link at A. { {

Tableau [T65.781], p.

TEST NUMBER: 7.3		PAGE: 1 OF 1

{
REFERENCE: Q.703 § 10.3
STD: Fig. 9, Fig. 11, Fig. 17
}		

TITLE: AERM check		

{
SUB TITLE: Error rate above the normal threshold
}		

{
PURPOSE:
To test the AERM at an error rate above the
threshold over five proving periods
}		

{
PRE-TEST CONDITIONS: Link out of service
}		

CONFIGURATION: 1		TYPE OF TEST: VAT

{
EXPECTED SIGNAL UNIT SEQUENCE:
}		

Link

	SP B	
		<----------------------
1 — 0	SIOS	----------------------
		<----------------------
1 — 0	SIO	----------------------
		<----------------------
1 — 0	SIN	----------------------
1 — 0	corrupt LSSUs	----------------------
		<----------------------
1 — 0	SIN	----------------------
1 — 0	corrupt LSSUs	----------------------
		<----------------------
1 — 0	SIN	----------------------
1 — 0	corrupt LSSUs	----------------------
		<----------------------
1 — 0	SIN	----------------------
1 — 0	corrupt LSSUs	----------------------
		<----------------------
1 — 0	SIN	----------------------
1 — 0	corrupt LSSUs	----------------------
		<----------------------

TEST DESCRIPTION

1.	Start link at A.
2.	{
Generate x number of corrupt LSSUs (e.g. CRC error) at B.(x ≥" Tin).	
}	}
3.	{
Observe that 5 proving period attempts are made before link out of service state.	
}	

TEST NUMBER: 7.4	PAGE: 1 OF 1

{
REFERENCE: Q.703 § 10.3
STD: Fig. 9, Fig. 11, Fig. 17
}	

TITLE: AERM check	

{
SUB TITLE: Error rate at the emergency threshold
}	

{
PURPOSE: To test the AERM at the emergency
threshold
}	

{
PRE-TEST CONDITIONS: Link out of service
}	

CONFIGURATION: 1	TYPE OF TEST: VAT

{
EXPECTED SIGNAL UNIT SEQUENCE:
}	

```
                                          SP  B
Link                                                                                        Link
                                                                <-----------------------    1 — 0
1 — 0                                     SIOS                  ----------------------->

                                                                <-----------------------    1 — 0
1 — 0                                     SIO                   ----------------------->
                                                                <-----------------------    1 — 0
1 — 0                                     SIE                   ----------------------->
1 — 0 1 — 0 T4 (Pe)                        {
| corrupt LSSU
|
| SIE
|
|
|
  }                                        {
----------------------->
----------------------->
<-----------------------
<-----------------------
  }                                       . 1 — 0 1 — 0              . SIN FISU
```

TEST DESCRIPTION	
1. Start link at A, check emergency proving started from B. }	{
2. Generate x number of corrupt LSSUs (e.g. CRC error) at B. (5 > x ≥" Tie). }	{
3. Check that link aligns successfully. }	{

TEST NUMBER: 8.1	PAGE: 1 OF 1

{
REFERENCE: Q.703 § 5.2
STD: Fig. 13, Fig. 14
}	

{
TITLE: Transmission and reception control (Basic)
}	

{
SUB TITLE: MSU transmission and reception
}	

{
PURPOSE: To check basic MSU transmission and
reception
}	

{
PRE-TEST CONDITIONS: Link in service
}	

CONFIGURATION: 1	TYPE OF TEST: VAT, CPT

{
EXPECTED SIGNAL UNIT SEQUENCE:
}	

Link	SP B	
		<-----------------------
1 — 0	FISU	----------------------->
1 — 0	MSU (FIB+FSN=80) (BIB+BSN=FF)	----------------------->
		<-----------------------
FISU (FIB+FSN=FF) (BIB+BSN=80) }		
1 — 0 FISU (FIB+FSN=80) (BIB+BSN=FF) }	{ ----------------------->	
1 — 0 FISU (FIB+FSN=80) (BIB+BSN=80) }	{ ----------------------->	<-----------------------
FISU (FIB+FSN=80) (BIB+BSN=80) }		<-----------------------

TEST DESCRIPTION		
1.	Generate an MSU at B.
2.	{
Check that A receives the MSU correctly, and returns a positive acknowledgement.	
}	
3.	Generate an MSU at A.
4.	{
Check that B receives the MSU correctly, and returns a positive acknowledgement.	
}	

Tableau [T68.781], p.

TEST NUMBER: 8.2	PAGE: 1 OF 1

{
REFERENCE: Q.703 § 5.3
STD: Fig. 13
}	

{
TITLE: Transmission and reception control (Basic)
}	

{
SUB TITLE: Negative acknowledgement of an MSU
}	

{
PURPOSE: To test the response to a negatively acknowledged
MSU
}	

{
PRE-TEST CONDITIONS: Link in service
}	

CONFIGURATION: 1	TYPE OF TEST: VAT

{
EXPECTED SIGNAL UNIT SEQUENCE:
}	

	SP B				SP A
Link				Link	
			<-----------------------	1 — 0	FISU
1 — 0	FISU		----------------------->		
			<-----------------------	1 — 0	MSU
			<-----------------------	1 — 0	MSU
1 — 0	FISU (BIB+BSN=7F)		----------------------->		
			<-----------------------	1 — 0	MSU
			<-----------------------	1 — 0	MSU

TEST DESCRIPTION	
1.	Send MSU from A.
2.	{
Reply with negative acknowledgement from B.	
}	
3.	{
Check that A retransmits the MSU.	
}	

Tableau [T69.781], p.

TEST NUMBER: 8.3	PAGE: 1 OF 1

{
REFERENCE: Q.703 § 5.3
STD: Fig. 13
}	

{
TITLE: Transmission and reception control (Basic)
}	

SUB TITLE: Check RTB full	

{
PURPOSE: To check that MSUs are buffered when no acknowledgements
are received
}	

{
PRE-TEST CONDITIONS: Link in service
}	

CONFIGURATION: 1	TYPE OF TEST: VAT

{
EXPECTED SIGNAL UNIT SEQUENCE:
}	

	SP B	
Link		<------------------
1 — 0	FISU (BIB+BSN=FF)	------------------ <------------------
MSU (FIB+FSN=80) ● ● }		
		<------------------ <------------------
1 — 0	FISU (BIB+BSN=7F)	------------------ <------------------
MSU (FIB+FSN=00) ● ● }		
		<------------------

TEST DESCRIPTION

1. Generate MSUs at A, at a rate of 100 per second, in order to fill the RTB before the EDA timer T7 expires. }	{
2. No acknowledgements are sent from B until the last message is received, then send negative acknowledgement to the first message received. }	{
3. Check that the complete contents of the RTB are retransmitted. }	{

TEST NUMBER: 8.4	PAGE: 1 OF 1

{
REFERENCE: Q.703 § 5.2
STD: Fig. 14
}	

{
TITLE: Transmission and reception control (Basic)
}	

{
SUB TITLE: Single MSU with erroneous FIB
}	

{
PURPOSE: To ensure correct performance when an MSU with erroneous
FIB is received
}	

{
PRE-TEST CONDITIONS: Link in service
}	

CONFIGURATION: 1	TYPE OF TEST: VAT

{
EXPECTED SIGNAL UNIT SEQUENCE:
}	

Link	SP B	
		<-------------
1 — 0	FISU (FIB+FSN=7F)	---------------
1 — 0	MSU (FIB+FSN=80)	---------------
		<-------------
1 — 0	FISU (FIB+FSN=00)	---------------
1 — 0	FISU (FIB+FSN=00)	---------------
		<-------------
1 — 0	MSU (FIB+FSN=80)	---------------
		<-------------

TEST DESCRIPTION

1. Generate an MSU at B with FIB inverted. }	{
2.	Check A discards the MSU.
3. Generate 2 FISUs at B with correct FIB. }	{
4. Check A discards the FISU and negative acknowledgement returned. }	{
5. Check that B retransmits the MSU correctly, and positive acknowledgement returned. }	{

Tableau [T71.781], p.

TEST NUMBER: 8.5	PAGE: 1 OF 1

{
REFERENCE: Q.703 § 5.2
STD: Fig. 14
}	

{
TITLE: Transmission and reception control (Basic)
}	

SUB TITLE: Duplicated FSN	

{
PURPOSE: To test the reception control response to duplicated
FSNs
}	

{
PRE-TEST CONDITIONS: Link in service
}	

CONFIGURATION: 1	TYPE OF TEST: VAT

{
EXPECTED SIGNAL UNIT SEQUENCE:
}	

	SP B	
Link		
		<-------------------
1 — 0	FISU	--------------------
1 — 0	MSU (FIB+FSN=80)	--------------------
		<-------------------
1 — 0	MSU (FIB+FSN=80)	--------------------
1 — 0	FISU (FIB+FSN=81)	--------------------
		<-------------------
1 — 0	MSU (FIB+FSN=01)	--------------------
		<-------------------

TEST DESCRIPTION	
1. Generate an MSU at B, check A receives the MSU correctly and returns a positive acknowledgement. }	{
2. Duplicate the FSN at B, check that A responds with a negative acknowledgement. }	{
3. Retransmit the MSU with correct FSN, check that A replies with a positive acknowledgement. }	{

Tableau [T72.781], p.

TEST NUMBER: 8.6	PAGE: 1 OF 1

{
 REFERENCE: Q.703 § 5.2
 STD: Fig. 14
 }	

{
 TITLE: Transmission and reception control (Basic)
 }	

{
 SUB TITLE: Erroneous retransmission — Single MSU
 }	

{
 PURPOSE: To test the reception control response to retransmission
 of a single MSU
 }	

{
 PRE-TEST CONDITIONS: Link in service
 }	

CONFIGURATION: 1	TYPE OF TEST: VAT

{
 EXPECTED SIGNAL UNIT SEQUENCE:
 }	

Link	SP B	
		<------------------------
1 — 0	FISU (FIB+FSN=FF)	------------------------>
1 — 0	MSU (FIB+FSN=00)	------------------------>
1 — 0	FISU (FIB+FSN=80)	------------------------>
1 — 0	FISU (FIB+FSN=80)	------------------------>
		<------------------------
1 — 0	MSU (FIB+FSN=00)	------------------------>
		<------------------------

TEST DESCRIPTION

1. A single MSU with FIB inverted in error is sent to A, followed by FISUs with correct FIBs. }	{
2. Check that A returns a negative acknowledgement for the MSU. }	{
3.	Retransmit the MSU correctly.
4. Check that A receives the MSU correctly and returns a positive acknowledgement. }	{

Tableau [T73.781], p.

TEST NUMBER: 8.7	PAGE: 1 OF 1

{
REFERENCE: Q.703 § 5.3
STD: Fig. 14
}	

{
TITLE: Transmission and reception control (Basic)
}	

{
SUB TITLE: Erroneous retransmission — Multiple FISUs
}	

{
PURPOSE: To test reception control response to retransmissions
of multiple FISUs
}	

{
PRE-TEST CONDITIONS: Link in service
}	

CONFIGURATION: 1	TYPE OF TEST: VAT

{
EXPECTED SIGNAL UNIT SEQUENCE:
}	

	SP B			Link	SP A
Link			<-----------------------	1 — 0	FISU
1 — 0	FISU (FIB+FSN=FF)		----------------------->		
1 — 0	FISU (FIB+FSN=7F)		----------------------->		
1 — 0	FISU (FIB+FSN=FF)		----------------------->		
1 — 0	FISU (FIB+FSN=7F)		----------------------->		
			<-----------------------	1 — 0	SIOS

TEST DESCRIPTION	
1. Generate FISUs with the FIB inverted at B. }	{
2. Check that A responds with link out of service. }	{

Tableau [T74.781], p.

TEST NUMBER: 8.8	PAGE: 1 OF 1

{
REFERENCE: Q.703 § 5.3
STD: Fig. 14
}	

{
TITLE: Transmission and reception control (Basic)
}	

{
SUB TITLE: Single FISU with corrupt FIB
}	

{
PURPOSE: To test the response to receive an FISU with a corrupt
FIB
}	

{
PRE-TEST CONDITIONS: Link in service
}	

CONFIGURATION: 1	TYPE OF TEST: VAT

{
EXPECTED SIGNAL UNIT SEQUENCE:
}	

Link	SP B	
		<------------------------
1 — 0	FISU (FIB+FSN=FF)	------------------------>
1 — 0	FISU (FIB+FSN=7F)	------------------------>
		<------------------------
1 — 0	FISU (FIB+FSN=FF)	------------------------>
		<------------------------

TEST DESCRIPTION	
1. Generate one FISU with a corrupt FIB at B, and check that the link status remains in service. }	{

TEST NUMBER: 8.9	PAGE: 1 OF 1

{
REFERENCE: Q.703 § 5.2
STD: Fig. 10, Fig. 14
}	

{
TITLE: Transmission and reception control (Basic)
}	

{
SUB TITLE: Single FISU prior to RPO being set
}	

{
PURPOSE: To test the response to RPO while in the abnormal
FIB state
}	

{
PRE-TEST CONDITIONS: Link in service
}	

CONFIGURATION: 1	TYPE OF TEST: VAT

{
EXPECTED SIGNAL UNIT SEQUENCE:
}	

Link	SP B	
		<------------------------
1 — 0	FISU	------------------------>
1 — 0	FISU (one only) (FIB+FSN=7F)	------------------------>
1 — 0	SIPO	------------------------>
1 — 0	MSU (FIB+FSN=80)	------------------------>
1 — 0	FISU (FIB+FSN=80)	{
---------------------->	ua) }	
1 — 0	FISU (FIB+FSN=80)	------------------------>
		<------------------------
1 — 0	MSU (FIB+FSN=00)	------------------------>
		<------------------------

TEST DESCRIPTION

1. Generate one FISU at B with abnormal FIB. }	{
2. Send SIPO from B, followed by an MSU. }	{
3. Check A responds correctly with negative acknowledgement and a retransmission is received corrrectly. }	{

TEST NUMBER: 8.10	PAGE: 1 OF 1

{
REFERENCE: Q.703 § 5.3
STD: Fig. 14
}	

{
TITLE: Transmission and reception control (Basic)
}	

{
SUB TITLE: Abnormal BSN — single MSU
}	

{
PURPOSE: To test the response to an abnormal
BSN
}	

{
PRE-TEST CONDITIONS: Link in service
}	

CONFIGURATION: 1	TYPE OF TEST: VAT

{
EXPECTED SIGNAL UNIT SEQUENCE:
}	

	SP B	
Link		<-----------------
1 — 0 FISU (FIB+FSN=FF) (BIB+BSN=FF) }	{	
1 — 0	------------------------> MSU (FIB+FSN=80) (BIB+BSN=BF)	———————————
1 — 0 FISU (FIB+FSN=80) (BIB+BSN=FF) }	{	
------------------------> | ua) }	{	
1 — 0 FISU (FIB+FSN=80) (BIB+BSN=FF) }	{	
	------------------------>	<-----------------
1 — 0	MSU (FIB+FSN=00) (BIB+BSN=FF)	----------------- <-----------------

TEST DESCRIPTION	
1. Generate a single MSU with abnormal BSN at B, followed by FISUs with correct BSN. }	{
2. Check that A responds with a negative acknowledgement. }	{
3. Retransmit the MSU correctly at B. }	{
4. Check that the MSU is received correctly and positive acknowledgement is given. }	{

Tableau [T77.781], p.

TEST NUMBER: 8.11	PAGE: 1 OF 1

{
REFERENCE: Q.703 § 5.3
STD: Fig. 14
}	

{
TITLE: Transmission and reception control (Basic)
}	

{
SUB TITLE: Abnormal BSN — two consecutive FISUs
}	

{
PURPOSE: To test the response to abnormal BSNs in two consecutive
FISUs
}	

{
PRE-TEST CONDITIONS: Link in service
}	

CONFIGURATION: 1	TYPE OF TEST: VAT

{
EXPECTED SIGNAL UNIT SEQUENCE:
}	

Link	SP B		Link
		<-----------------------	1 —
1 — 0	FISU (BIB+BSN=FF)	----------------------->	
1 — 0	FISU (BIB+BSN=BF)	----------------------->	
1 — 0	FISU (BIB+BSN=BF)	----------------------->	
1 — 0	FISU (BIB+BSN=FF)	----------------------->	
		<-----------------------	1 —

TEST DESCRIPTION	
1. Generate two consecutive FISUs at B with abnormal BSNs. }	{
2. Check that A responds by taking the link out of service. }	{

Tableau [T78.781], p.

TEST NUMBER: 8.12	PAGE: 1 OF 1

{
REFERENCE: Q.703 § 5.3
STD: Fig. 14
}	

{
TITLE: Transmission and reception control (Basic)
}	

{
SUB TITLE: Excesssive delay of acknowledgement
}	

{
PURPOSE: To test the transmission control response to the expiration
of EDA timer T7
}	

{
PRE-TEST CONDITIONS: Link in service
}	

CONFIGURATION: 1	TYPE OF TEST: VAT

{
EXPECTED SIGNAL UNIT SEQUENCE:
}	

	SP B	
Link		
		<-
1 — 0	FISU (BIB+BSN=FF)	---
		<-
T7 | MSU		
T7 | (FIB+FSN=80)		
T7 |		
T7 |		
}		
		<-

TEST DESCRIPTION	
1.	Generate an MSU at A.
2. Discard the received MSU at B and send no acknowledgement to A for more than T7 period. }	{
3. Check that the link is taken out of service by SIOS generated at A after T7 has expired. }	{
4. Timer T7 shall be in the range 0.5 secs to 2.0 secs. }	{

Tableau [T79.781], p.

TEST NUMBER: 8.13	PAGE: 1 OF 1

{
REFERENCE: Q.703 § 7
STD: Fig. 14
}	

{
TITLE: Transmission and reception control (Basic)
}	

{
SUB TITLE: Level 3 Stop command
}	

{
PURPOSE: To test the response to a Stop
command
}	

{
PRE-TEST CONDITIONS: Link in service
}	

CONFIGURATION: 1	TYPE OF TEST: VAT

{
EXPECTED SIGNAL UNIT SEQUENCE:
}	

	SP B		Link	SP A
Link		<------------------------	1 — 0	FISU
		------------------------>		
1 — 0	FISU			: stop
		<------------------------	1 — 0	SIOS

TEST DESCRIPTION	
1. 2. Check that A responds with link out of service. }	Give Stop command at A. {

H.T. [T81.781]
MTP LEVEL 2

TEST NUMBER: 9.1	PAGE: 1 OF 1

{
REFERENCE: Q.703 § 6.2
STD: Fig. 15, Fig. 16
}	

{
TITLE: Transmission and reception control (PCR)
}	

{
SUB TITLE: MSU transmission and reception
}	

{
PURPOSE: To check basic MSU transmission and
reception
}	

{
PRE-TEST CONDITIONS: Link in service
}	

CONFIGURATION: 1	TYPE OF TEST: VAT, CPT

{
EXPECTED SIGNAL UNIT SEQUENCE:
}	

	SP B	
Link 1 — 0	 FISU (FSN=7F, BSN=7F)	<---------------------- ----------------------> <---------------------- <----------------------
MSU (FSN=0, BSN=7F) • • }		
1 — 0	FISU (FSN=7F, BSN=0)	----------------------> <----------------------
1 — 0	MSU (FSN=0, BSN=0)	----------------------> <----------------------

TEST DESCRIPTION

1.	Generate an MSU at A.
2.	{
Check that B receives the MSU correctly.	
}	
3.	{
Check that A sends FISUs after receiving an FISU with a positive acknowledgement.	
}	
4.	Generate an MSU at B.
5.	{
Check that A receives the MSU correctly and returns a positive acknowledgement.	
}	

Tableau [T81.781], p.

TEST NUMBER: 9.2	PAGE: 1 OF 1

{
REFERENCE: Q.703 § 6.3
STD: Fig. 15, Fig. 16
}	

{
TITLE: Transmission and reception control (PCR)
}	

SUB TITLE: Priority control	

{
PURPOSE: To check the preventive retransmission
procedure
}	

{
PRE-TEST CONDITIONS: Link in service
}	

CONFIGURATION: 1	TYPE OF TEST: VAT

{
EXPECTED SIGNAL UNIT SEQUENCE:
}	

	SP B		Li
Link			
		<-----------------------	1 -
1 — 0	FISU (FSN=7F, BSN=7F)	----------------------->	
		<-----------------------	1 -
		<-----------------------	1 -
MSU (FSN=1, BSN=7F) • • }			
		<-----------------------	1 -
MSU (FSN=2, BSN=7F) • • }			
		<-----------------------	1 -
		<-----------------------	1 -
		<-----------------------	1 -
MSU (FSN=2, BSN=7F) • • }			
1 — 0	FISU (FSN=7F, BSN=0)	----------------------->	
1 — 0	FISU (FSN=7F, BSN=1)	----------------------->	
1 — 0	FISU (FSN=7F, BSN=2)	----------------------->	
		<-----------------------	1 -

TEST DESCRIPTION	
1.	Generate two MSUs at A.
2.	{
No positive acknowledgement is sent from B.	
}	
3.	{
Check that MSUs are retransmitted at A.	
}	
4.	Generate another MSU at A.
5.	{
Check that B receives MSUs correctly.	
}	
6.	{
Reply with positive acknowledgements at B.	
}	
7.	{
Check that A stops retransmission after receiving the positive acknowledgement for the last MSU in RTB and sends FISU.	
}	

Tableau [T82.781], p.

TEST NUMBER: 9.3	PAGE: 1 OF 1

{
REFERENCE: Q.703 § 6.4
STD: Fig. 15
}	

{
TITLE: Transmission and reception control (PCR)
}	

{
SUB TITLE: Forced retransmission with the value N
1
}	

{
PURPOSE: To check that ''RTB full'' is detected by N
1 and forced
retransmission occurs
}	

{
PRE-TEST CONDITIONS: Link in service
}	

CONFIGURATION: 1	TYPE OF TEST: VAT

{
EXPECTED SIGNAL UNIT SEQUENCE:
}	

	SP B	
Link		<---
1 — 0	FISU (FSN=7F, BSN=7F)	-----
		<---
MSU		
(FSN=0, BSN=7F)		
•		
•		
}		
		<---
		<---
MSU		
(FSN=0, BSN=7F)		
•		
•		
}		
		<---
1 — 0	FISU (FSN=7F, BSN=0)	-----
		<---
MSU		
(FSN=X+1, BSN=7F)		
•		
•		
}		
		<---

TEST DESCRIPTION	
1. Generate 128 MSUs at A, at a rate of 100 per second, in order to fill the RTB before the EDA timer T7 expires. }	{
2. No positive acknowledgement is sent from B until a forced retransmission starts at A. }	{
3. Reply with a positive acknowledgement with BSN=0 before T7 expires at A. }	{
4. Check that the forced retransmission is canceled after the transmission of the last MSU in RTB. }	{
Note — N 1 is the maximum number of MSUs which are available for retransmission. (The value of N 1 is normally 127). }	{

Tableau [T83.781], p.

TEST NUMBER: 9.4	PAGE: 1 OF 1

{
REFERENCE: Q.703 § 6.4
STD: Fig. 15
 }	

{
TITLE: Transmission and reception control (PCR)
 }	

{
SUB TITLE: Forced retransmission with the value N
2
 }	

{
PURPOSE: To check that ''RTB full'' is detected by N
2 and forced
retransmission starts
 }	

{
PRE-TEST CONDITIONS: Link in service
 }	

CONFIGURATION: 1	TYPE OF TEST: VAT

{
EXPECTED SIGNAL UNIT SEQUENCE:
 }	

	SP B	
Link		<--------------
1 — 0	FISU (FSN=7F, BSN=7F)	--------------
		<--------------
MSU		
(FSN=0, BSN=7F)		
•		
•		
}		
		<--------------
		<--------------
MSU		
(FSN=0, BSN=7F)		
•		
•		
}		
		<--------------
1 — 0	FISU (FSN=7F, BSN=a—1)	--------------
		<--------------
		<--------------

TEST DESCRIPTION

1. Generate N+1 MSUs at A, (the octet count of N MSUs is larger than N 2). }	{
2. Send no positive acknowledgement at B until a forced retransmission starts at A. }	{
3. Check that B receives the MSUs with FSN=0 up to FSN=N—1 but does not receive the MSU with FSN=N. }	{
4. Reply with a positive acknowledgement with BSN=a—1 at B. }	{
5. Check that the retransmission restarts from the next value of FSN which is acknowledged by B when the retransmission is interrupted. }	{
6. Check that B receives the MSU with FSN=N. }	{
Note — N 2 is the maximum number of octets which are available for retransmission. }	{

Tableau [T84.781], p.

TEST NUMBER: 9.5	PAGE: 1 OF 1

{
REFERENCE: Q.703 § 6.4
STD: Fig. 15
}	

{
TITLE: Transmission and reception control (PCR)
}	

{
SUB TITLE: Forced retransmission cancel
}	

{
PURPOSE:
To check that the forced retransmission is canceled when BSN equal to FSNL is received
}	

{
PRE-TEST CONDITIONS: Link in service
}	

CONFIGURATION: 1	TYPE OF TEST: VAT

{
EXPECTED SIGNAL UNIT SEQUENCE:
}	

Link	SP B	
		<-----------------------
1 — 0	FISU (FSN=7F, BSN=7F)	----------------------->
		<-----------------------
MSU		
(FSN=0, BSN=7F)		
•		
•		
}		
		<-----------------------
		<-----------------------
MSU		
(FSN=0, BSN=7F)		
•		
•		
}		
		<-----------------------
1 — 0	FISU (FSN=7F, BSN=7E)	----------------------->
		<-----------------------

TEST DESCRIPTION

1. Generate N 1+1 MSUs at A, (e.g. 128). }	{
2. Send no positive acknowledgement at B until a retransmission occurs at A. }	{
3. Reply with a positive acknowledgement with BSN=7E at B. }	{
4. Check that a forced retransmission is canceled and the MSU with FSN=7F is sent at A. }	{
	{
Note 1 — FSNL is the FSN of the last MSU in RTB. }	
	{
Note 2 — Alternatively, the number of octets threshold (N 2), instead of the number of MSUs threshold (N 1), could be used to start forced retransmission. }	

Tableau [T85.781], p.

TEST NUMBER: 9.6	PAGE: 1 OF 1

{
 REFERENCE: Q.703 § 6.4
 STD: Fig. 15
 }	

{
 TITLE: Transmission and reception control (PCR)
 }	

{
 SUB TITLE: Repetition of forced retransmission
 }	

{
 PURPOSE:
 To check that the forced retransmission repeats when
 ''RTB full'' is still detected after finishing a forced
 retransmission
 }	

{
 PRE-TEST CONDITIONS: Link in service
 }	

CONFIGURATION: 1	TYPE OF TEST: VAT

{
 EXPECTED SIGNAL UNIT SEQUENCE:
 }	

	SP B		Link
Link		<-----------------------	1 — 0
1 — 0	FISU (FSN=7F, BSN=7F)	-----------------------> <-----------------------	 1 — 0
MSU (FSN=0, BSN=7F) ● ● }			
		<----------------------- <-----------------------	1 — 0 1 — 0
MSU (FSN=0, BSN=7F) ● ● }			
		<----------------------- <-----------------------	1 — 0 1 — 0

TEST DESCRIPTION

1. Generate MSUs at A at a rate of N per second, in order to make A repeat a forced retransmission. (N $\geq$" $127 \div T$, where T = lower limit of T7) }	{
2. No acknowledgement is sent from B. }	{
3. Check that A repeats a forced retransmission. }	{

TEST NUMBER: 9.7	PAGE: 1 OF 1

{
REFERENCE: Q.703 § 6.2
STD: Fig. 15
}	

{
TITLE: Transmission and reception control (PCR)
}	

{
SUB TITLE: MSU transmission while RPO set
}	

{
PURPOSE: To ensure correct performance while RPO
is set
}	

{
PRE-TEST CONDITIONS: Link in service
}	

CONFIGURATION: 1	TYPE OF TEST: VAT

{
EXPECTED SIGNAL UNIT SEQUENCE:
}	

	SP B	
Link		<-------------------------
1 — 0	FISU (FSN=7F, BSN=7F)	-------------------------
		<-------------------------
MSU (FSN=0, BSN=7F)		
•		
•		
}		
1 — 0	: set LPO SIPO (FSN=7F, BSN=7F)	-------------------------
		<-------------------------
FISU (FSN=0, BSN=7F)		
•		
•		
}		
1 — 0	: clear LPO MSU (FSN=0, BSN=7F)	-------------------------
		<-------------------------
1 — 0	MSU (FSN=0, BSN=0)	-------------------------
		<-------------------------

TEST DESCRIPTION

1.	Generate an MSU at A.
2. Instead of sending positive acknowledgement, set and keep PO at B. }	{
3. Check A stops a retransmission of the MSU and sends FISUs, and not detect link failure by the expiration of T7. }	{
4. Cease PO and send an MSU with no positive acknowledgement at B. }	{
5. Check A starts a retransmission of the MSU. }	{
6. Generate an MSU with a positive acknowledgement at B. }	{
7. Check A receives the MSU and responds correctly. }	{

Tableau [T87.781], p.

TEST NUMBER: 9.8	PAGE: 1 OF 1

{
REFERENCE: Q.703 § 6.3
STD: Fig. 16
}	

{
TITLE: Transmission and reception control (PCR)
}	

{
SUB TITLE: Abnormal BSN — Single MSU
}	

{
PURPOSE: To test the response to an abnormal
BSN
}	

{
PRE-TEST CONDITIONS: Link in service
}	

CONFIGURATION: 1	TYPE OF TEST: VAT

{
EXPECTED SIGNAL UNIT SEQUENCE:
}	

	SP B	
Link		
		<------------
1 — 0	FISU (FSN=7F, BSN=7F)	------------
1 — 0	MSU (FSN=0, BSN=0)	------------
1 — 0	MSU (FSN=0, BSN=7F)	------------
1 — 0	MSU (FSN=0, BSN=7F)	------------
		<------------

TEST DESCRIPTION	
1. Generate a single MSU at B with abnormal BSN followed by retransmission of that MSU with normal BSN. }	{
2. Check that A responds with a positive acknowledgement and not detect link failure. }	{

Tableau [T88.781], p.

TEST NUMBER: 9.9	PAGE: 1 OF 1

{
 REFERENCE: Q.703 § 6.3
 STD: Fig. 16
 }	

{
 TITLE: Transmission and reception control (PCR)
 }	

{
 SUB TITLE: Abnormal BSN — Two MSUs
 }	

{
 PURPOSE:
 To test the response to two consecutive MSUs with an MSU
 having normal BSN between them
 }	

{
 PRE-TEST CONDITIONS: Link in service
 }	

CONFIGURATION: 1	TYPE OF TEST: VAT

{
 EXPECTED SIGNAL UNIT SEQUENCE:
 }	

	SP B	
Link		<----------
1 — 0	FISU (FSN=7F, BSN=7F)	------------
1 — 0	MSU (FSN=0, BSN=7E)	------------
1 — 0	MSU (FSN=0, BSN=7F)	------------
1 — 0	MSU (FSN=0, BSN=7E)	------------
		<----------

TEST DESCRIPTION	
1. Generate two consecutive MSUs at B with abnormal BSN with an MSU having normal BSN between them. }	{
2. Check that all MSUs are discarded at A. }	{
3. Check that A responds by taking the link out of service. }	{

Tableau [T89.781], p.

TEST NUMBER: 9.10	PAGE: 1 OF 1

{
REFERENCE: Q.703 § 6.2
STD: Fig. 16
}	

{
TITLE: Transmission and reception control (PCR)
}	

SUB TITLE: Unexpected FSN	

{
PURPOSE: To check the reception control response to an MSU with
unexpected FSN
}	

{
PRE-TEST CONDITIONS: Link in service
}	

CONFIGURATION: 1	TYPE OF TEST: VAT

{
EXPECTED SIGNAL UNIT SEQUENCE:
}	

Link	SP B	
		<-----------------------
1 — 0	FISU (FSN=7F, BSN=7F)	----------------------->
1 — 0	MSU (FSN=0, BSN=7F)	----------------------->
1 — 0	MSU (FSN=2, BSN=7F)	----------------------->
		<-----------------------

TEST DESCRIPTION	
1. Generate an MSU with unexpected FSN at B. }	{
2. Check A discards the MSU with unexpected FSN and not sends acknowledgement for that MSU. }	{

TEST NUMBER: 9.11	PAGE: 1 OF 1

{
REFERENCE: Q.703 § 6.3
STD: Fig. 15
}	

{
TITLE: Transmission and reception control (PCR)
}	

{
SUB TITLE: Excessive delay of acknowledgement
}	

{
PURPOSE: To test the transmission control response to the expiration
of EDA timer T7
}	

{
PRE-TEST CONDITIONS: Link in service
}	

CONFIGURATION: 1	TYPE OF TEST: VAT

{
EXPECTED SIGNAL UNIT SEQUENCE:
}	

	SP B	
Link		<-------------------------
1 — 0	FISU (FSN=7F, BSN=7F)	----------------------->
		<-------------------------
|		
MSU		
|		
(FSN=0, BSN=7F)		
| fB T7		
●		
| T7 ●		
| fB T7		
●		
}		<-------------------------

TEST DESCRIPTION

1.	Generate an MSU at A.

2.
Suspend sending positive acknowledgement at B for more than
T7 period.
	{
	
	}

3.
Check that A sends SIOSs instead of retransmission of MSU after
T7 expires.
	{
	
	}

4.
Timer T7 shall be in the range 0.5 secs to
2.0 secs.
	{
	
	}

Tableau [T91.781], p.

TEST NUMBER: 9.12	PAGE: 1 OF 1

{
REFERENCE: Q.703 § 6.2
STD: Fig. 16
}	

{
TITLE: Transmission and reception control (PCR)
}	

{
SUB TITLE: FISU with FSN expected for MSU
}	

{
PURPOSE: To check that the received FISU having FSN expected for MSU
is discarded
}	

{
PRE-TEST CONDITIONS: Link in service
}	

CONFIGURATION: 1	TYPE OF TEST: VAT

{
EXPECTED SIGNAL UNIT SEQUENCE:
}	

	SP B	
Link 1 — 0	FISU (FSN=7F, BSN=7F)	----------------------> <-----------------------
1 — 0	FISU (FSN=0, BSN=7F)	----------------------> <-----------------------

TEST DESCRIPTION	
1. Generate an FISU with FSN expected for MSU at B. }	{
2. Check that A discards the FISU and responds with an FISU with correct BSN. }	{

Tableau [T92.781], p.

TEST NUMBER: 9.13	PAGE: 1 OF 1

{
 REFERENCE: Q.703 § 7
 STD: Fig. 16
 }	

{
 TITLE: Transmission and reception control (PCR)
 }	

{
 SUB TITLE: Level 3 Stop command
 }	

{
 PURPOSE: To test the response to a Stop command
 }	

{
 PRE-TEST CONDITIONS: Link in service
 }	

CONFIGURATION: 1	TYPE OF TEST: VAT

{
 EXPECTED SIGNAL UNIT SEQUENCE:
 }	

	SP B		Link	SP A
Link		<------------------------ ---------------------->	1 — 0	FISU
1 — 0	FISU			: stop
		<------------------------	1 — 0	SIOS

TEST DESCRIPTION	
1. 2. Check that A responds with link out of service. }	Give Stop command at A. {

TEST NUMBER: 10.1	PAGE: 1 OF 1

{
REFERENCE: Q.703 § 9
STD: Fig. 19
}	

TITLE: Congestion Control	

{
SUB TITLE: Congestion abatement
}	

{
PURPOSE: To check the congestion abatement
procedure
}	

{
PRE-TEST CONDITIONS: Link in service
}	

CONFIGURATION: 1	TYPE OF TEST: VAT

{
EXPECTED SIGNAL UNIT SEQUENCE:
}	

Link	SP B		Link
T5 | : make congestion **T5	:** state }			
		<------------------------	1 — 0
T5 | SIB **T5** | T5 | **T5** | }			
		<-----------------------	1 — 0
T5 | SIB **T5 |** • **T6 |** • } **T5 |** : clear congestion **T5	:** state }			
		<------------------------	1 — 0

TEST DESCRIPTION

1. Make congestion state at A and check A sends SIB. (Implementation of congestion control is not specified.) }	{
2. Check B receives SIBs at the interval of T5. }	{
3. Clear congestion state at A and check A stops sending SIBs. }	{
4. Timer T5 shall be in the range 80 ms to 120 ms. }	{

0

TEST NUMBER: 10.2	PAGE: 1 OF 1

{
REFERENCE: Q.703 § 9.2
STD: Fig. 19
}	

TITLE: Congestion Control	
SUB TITLE: Timer T7	

{
PURPOSE: To check timer T7 is restarted at the reception of SIB
(without expiring of T6)
}	

{
PRE-TEST CONDITIONS: Link in service
}	

CONFIGURATION: 1	TYPE OF TEST: VAT

{
EXPECTED SIGNAL UNIT SEQUENCE:
}	

	SP B		

Link
{
.
1 — 0
1 — 0
1 — 0
1 — 0
}			

.	{		
SIB SIB • • SIB FISU }	{		
. | | | Ct | | | Bt | | | }	{		
<------------------------ ------------------------> ------------------------> ------------------------> ------------------------> }	1 — 0		{
MSU | | | | | T6 | | | | | }			

TEST DESCRIPTION

1.	Generate an MSU at A.
2. Generate SIBs at B with the time intervals of T5 for Ct, instead of positive acknowledgement. }	{
3. Check that link remains in service during Ct. }	{
4. Send FISU with positive acknowledgement from B after Bt expires. }	{
5. Check that link remains in service. }	{

6. Ct = more than T7 and less than T6. }	{
7.	Bt = less than T7.
8.	(Ct + Bt) is less than T6.

Tableau [T95.781], p.

TEST NUMBER: 10.3	PAGE: 1 OF 1

{
REFERENCE: Q.703 § 9.3
STD: Fig. 19
}	

TITLE: Congestion Control	
SUB TITLE: Timer T6	

{
PURPOSE: To check ''Remote Congestion''
Timer T6
}	

{
PRE-TEST CONDITIONS: Link in service
}	

CONFIGURATION: 1	TYPE OF TEST: VAT

{
EXPECTED SIGNAL UNIT SEQUENCE:
}	

	SP B		Link	SP A

Link
 {
1 — 0
1 — 0
1 — 0
1 — 0
 }
SIB
SIB
 •
 •
SIB
 •
 •
SIB
 }
----------------------->-
----------------------->-
----------------------->-
----------------------->-
<-----------------------
 }
 |
 |
 |
 | T6
 |
 |
 |
 |
SIOS
 }
	{
	
	{
	
	. 1 — 0
			{	

TEST DESCRIPTION	
1. Generate SIB at B until Timer T6 expires. } 2. Check link becomes out of service. } 3. Timer T6 shall be in the range 3 secs to 6 secs (8 to 12 secs for 4.8 kbit/s). }	{ { {

Tableau [T96.781], p.

FIGURE 1/Q.781, p.