

MTP, LEVEL 2

TEST NUMBER:

PAGE:

REFERENCE: Q.703 §§ 7, 8
STD: Fig. 8

TITLE:

SUB TITLE:

PURPOSE: To test the response to LPO when “aligned ready” and to ensure that the aligned ready state resumes when LPO is cleared.

PRE-TEST CONDITIONS:

CONFIGURATION:

1

TYPE OF TEST:

VAT

EXPECTED SIGNAL UNIT SEQUENCE:

SP
B

SP
A

Link

Link

<-----

1 – 0

SIOS

1 – 0 SIOS

----->

:
start

<-----

1 – 0

SIO

1 – 0 SIO

----->

<-----

1 – 0

SIN

1 – 0 SIN

----->

<-----

1 - 0

FISU

:
set LPO

<-----

1 - 0

SIPO

:
wait 5 secs.

:
clear LPO

<-----

1 - 0

FISU

TEST DESCRIPTION

1.

Start link at A.

2.

At “aligned ready” state set LPO at A.
(Suppress return of FISUs at B to maintain “aligned ready” state).

3.

Clear LPO at A.

4.

Check A resumes “aligned ready” state.

MTP, LEVEL 2

TEST NUMBER:
1.16

PAGE: 1 OF 1

REFERENCE: Q.703 §§ 7, 8
STD: Fig. 8

TITLE:

SUB TITLE:

PURPOSE:

PRE-TEST CONDITIONS:

CONFIGURATION:

1

TYPE OF TEST:

VAT

EXPECTED SIGNAL UNIT SEQUENCE:

SP B

SP
A

Link

Link

<-----
1 - 0

SIOS

1 - 0 SIOS
----->

:
set LPO

:
start

<-----
1 - 0

SIO

1 - 0 SIO
----->

<-----

1 – 0

SIN

1 – 0 SIN

----->

<-----

1 – 0

SIPO

<-----

1 – 0

SIOS

TEST DESCRIPTION

1.

Set LPO and start link at A.

2.

Check A enters the “aligned not ready” state.

3.

Check A takes the link out of service after time T1.

4.

Timer T1 shall be in the range 40 secs to 50 secs.

MTP, LEVEL 2

TEST NUMBER:
1.17

PAGE: 1 OF 1

REFERENCE:
Q.703 § 7
STD: Fig. 9

TITLE: Link State Control – Expected signal units/orders

SUB TITLE:
No SIO sent during normal proving period

PURPOSE: To ensure that normal alignment still occurs when SIO is omitted

PRE-TEST CONDITIONS:

Link out of Service

CONFIGURATION: 1

TYPE OF TEST:

VAT

EXPECTED SIGNAL UNIT SEQUENCE:

SP

B

SP

A

Link

Link

<-----
1 - 0

SIOS

1 - 0 SIOS
----->

: start

<-----
1 - 0

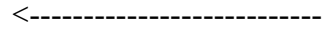
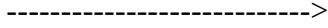
SIO not aligned

1 - 0 SIN
----->

<-----
1 - 0

SIN

1 – 0



1 – 0

FISU

TEST DESCRIPTION

1.

Check normal alignment occurs with no SIO sent from SP B.

MTP, LEVEL 2

TEST NUMBER:
1.18

PAGE:1 OF 1

REFERENCE:
STD: Fig. 8

TITLE: Link State Control – Expected signal units/orders

SUB TITLE:
Set and cease emergency prior to “start alignment”

PURPOSE:To test the normal proving period is employed having “emergency” set and cleared

PRE-TEST CONDITIONS:

CONFIGURATION:

TYPE OF TEST:
VAT

EXPECTED SIGNAL UNIT SEQUENCE:

SP
B

SP A

Link

Link

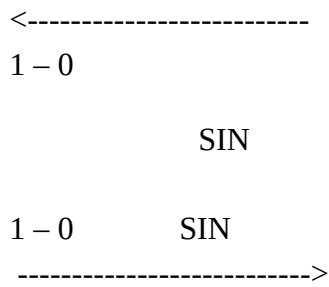
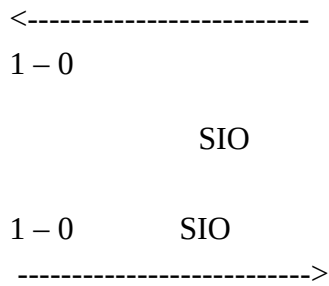
<-----
1 - 0 SIOS

1 - 0 SIOS
----->

:
set Em

:
clear Em

:
start



<-----

1 – 0

FISU

TEST DESCRIPTION

1.

Check emergency set and cleared prior to start of alignment.

2.

Check normal proving period is carried out.

MTP, LEVEL 2

TEST NUMBER:
1.19

PAGE: 1 OF 1

REFERENCE:
STD: Fig. 8; Fig. 9

TITLE: Link State Control – Expected signal units/orders

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SUB TITLE:

Set emergency while in “not aligned state”

PURPOSE: To test that emergency proving can be set during normal initial alignment.

PRE-TEST CONDITIONS:

CONFIGURATION:

TYPE OF TEST:

VAT, CPT

EXPECTED SIGNAL UNIT SEQUENCE:

SP
B

PS
A

Link

Link

<-----

1 - 0

SIOS

1 - 0 SIOS

----->

:
start

<-----

1 - 0

SIO

:
set EM

1 - 0 SIO
----->

<-----
1 - 0

SIE

1 - 0 SIN
----->

<-----
1 - 0

FISU

TEST DESCRIPTION

1.

Check that emergency proving period is used after set EM during normal initial alignment.

2.

The timing of this test is critical, emergency must be set once the start command has been given and before SIO is received. (i.e. during Timer T2 operation).

3.

At 64 kbit/s Timer T4 shall be in the range 0,4 sec to 0,6 sec (nominally 0,5 sec).

4.

At 4,8 kbit/s, Timer T4 shall be in the range 6 secs to 8 secs (nominally 7 secs).

MTP, LEVEL 2

TEST NUMBER:

PAGE: 1 OF 1

REFERENCE:
STD: Fig. 9

TITLE:

SUB TITLE:

PRE-TEST CONDITIONS:
prior to receiving SIN

CONFIGURATION:

TYPE OF TEST:
VAT

EXPECTED SIGNAL UNIT SEQUENCE:

SP
B

A

Link

Link

<-----

1 - 0
SIOS

1-0
SIOS
----->

:
start

<-----
1-0
SIO

1-0
SIO
----->

<-----
1-0
SIN

:
set EM

<-----
1-0
SIE

1-0
SIN

----->

<-----

1 – 0
FISU

TEST DESCRIPTION

1.

Check that emergency proving period is used after SIE sent during “aligned” state.

2.

The timing of this test is critical. Emergency must be set once SIN has been sent but before Timer T3 expires.

MTP, LEVEL 2

TEST NUMBER:
1.21

PAGE: 1 OF 1

REFERENCE:
STD: Fig. 8; Fig. 9

TITLE:

SUB TITLE:

PURPOSE: To check the emergency alignment procedure and Timer T4 (Pe)

PRE-TEST CONDITIONS:

CONFIGURATION:

TYPE OF TEST:
VAT

EXPECTED SIGNAL UNIT SEQUENCE:

B

SP A

Link

Link

<-----
1 - 0 SIOS

1 - 0 SIOS
----->

:
set EM

:
start

<-----

1 - 0

SIO

1 - 0 SIO

----->

<-----

1 - 0

SIE

1 - 0 SIE

----->

<-----

1 - 0

FISU

TEST DESCRIPTION

1.

Check correct emergency alignment procedure is performed.

MTP, LEVEL 2

TEST NUMBER:
1.22

PAGE: 1 OF 1

REFERENCE: Q.703 § 7
STD: Fig. 9

TITLE:

SUB TITLE:

PURPOSE:

PRE-TEST CONDITIONS:

CONFIGURATION:

1

TYPE OF TEST:

VAT

EXPECTED SIGNAL UNIT SEQUENCE:

B

SP

A

Link

Link

<-----

1 - 0

SIOS

1 - 0

SIOS

----->

1 - 0

SIO

----->

:
start

<-----

1 - 0

SIO

1 - 0

SIE

----->

<-----

1 - 0

SIN

<-----

1 - 0

FISU

TEST DESCRIPTION

1.

Emergency alignment set at B.

2.

Start alignment at A.

3.

Check that alignment occurs with the emergency proving period.

MTP, LEVEL 2

TEST NUMBER:
1.23

PAGE: 1 OF 1

REFERENCE:
STD: Fig. 9

TITLE:

SUB TITLE:

PURPOSE: To test that setting emergency during normal proving stops normal proving and starts the emergency proving

PRE-TEST CONDITIONS:

CONFIGURATION:

TYPE OF TEST:
VAT

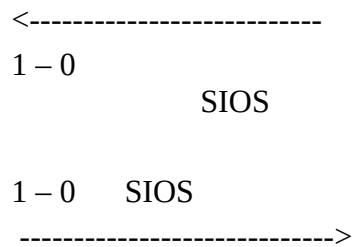
EXPECTED SIGNAL UNIT SEQUENCE:

B

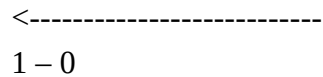
SP
A

Link

Link



:
start



SIO

1-0 SIO

----->

<-----

1-0

SIN

1-0 SIN

----->

:
set EM

<-----

1-0

SIE

1-0 SIN

----->

<-----

1-0

FISU

TEST DESCRIPTION

1.

Set emergency during normal proving period at A.

2.

Check A sends SIE.

3.

Repeat test in reverse direction.

MTP, LEVEL 2

TEST NUMBER:
1.24

PAGE:1 OF 1

REFERENCE:
STD: Fig. 9

TITLE: Link State Control – Expected signal units/orders

SUB TITLE:
No SIO sent during emergency alignment

PURPOSE: To ensure that emergency alignment still occurs when SIE is received following SIOS

PRE-TEST CONDITIONS:

CONFIGURATION:

TYPE OF TEST:
VAT

EXPECTED SIGNAL UNIT SEQUENCE:

SP

B

SP

A

Link

Link

<-----
1 - 0
SIOS
1 - 0 SIOS
----->

:
set EM

:
start

<-----
1 - 0
SIO
1 - 0 SIE
----->

<-----

1 - 0

SIE

<-----

1 - 0

FISU

TEST DESCRIPTION

1.

Set emergency and start link at A.

2.

A receives SIE after sending SIO.

3.

Check that link aligns OK after emergency proving.

MTP, LEVEL 2

TEST NUMBER:
1.25

PAGE:
1 OF 1

REFERENCE: Q.703 § 7 STD: Fig. 8; Fig. 9

TITLE: Link State Control – Expected signal units/orders

SUB TITLE:
Deactivation during initial alignment

PURPOSE: To test the response to the receipt of the stop command while in the initial alignment state (initial alignment is Not Aligned State)

PRE-TEST CONDITIONS:

CONFIGURATION:

TYPE OF TEST:
VAT, CPT

EXPECTED SIGNAL UNIT SEQUENCE:

SP

B

SP

A

Link

Link

<-----

1 - 0

SIOS

1 - 0

SIOS

----->

:
start

<-----

1 - 0

SIO

:

wait 5 secs.

:

stop

<-----

1 - 0

SIOS

TEST DESCRIPTION

1.

Check that alignment ceases after Stop command given.

2.

The stop command must be issued before timer T2 expires.

3.

Timer T2 shall be in the range 5 secs to 150 secs.

