



# ISDN 用戶電信終端設備技術規範

國家通訊傳播委員會

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# ISDN 用戶電信終端設備技術規範

## 1. 法源依據

本規範係依據電信管理法第四十四條第一項規定訂定之。

## 2. 適用範圍

2.1 本規範所稱之 ISDN 用戶電信終端設備包括接入整體服務數位網路 (Integrated Services Digital Network, ISDN) 之下列各種用戶電信終端設備：

- 2.1.1 ISDN 數位電話機。
- 2.1.2 ISDN 個人電腦附加卡。
- 2.1.3 ISDN G4 傳真機。
- 2.1.4 ISDN 影像電話機。
- 2.1.5 ISDN 終端配接器、ISDN 終端配接器模組。
- 2.1.6 ISDN PABX。
- 2.1.7 其他 ISDN 用戶電信終端設備等。

2.2 本規範審驗用戶電信終端設備之 OSI 第一、二、三層通信協定。有關其 OSI 之高層通信協定，則不在本規範範圍內。

2.3 ISDN 交換機與 110/119 集中受理電信終端設備介接通信協定列為 ISDN 用戶電信終端設備之選測項目。

## 3. 向測試機構申請測試報告，廠商須檢附測試準備資訊 (Client Test Preparation Information, CTPI) 各一份如下：

- 3.1 系統符合性聲明 (System Conformance Statement, SCS)。
- 3.2 協定製作符合性聲明 (Protocol Implementation Conformance Statement, PICS)。
- 3.3 協定製作之額外測試資訊 (Protocol Implementation eXtra Information for Testing, PIXIT)。

## 4. 檢驗項目及合格標準

4.1 基本速率接取界面：廠商販賣 ISDN 用戶電信終端設備之檢驗項目及合格標準如附表一，用戶自用之檢驗項目及合格標準如附表二。

4.2 原級速率接取界面 (區分為 T1 【1.544Mbit/s】、E1 【2.048Mbit/s】 介面)：廠商販賣 ISDN 用戶電信終端設備之檢驗項目及合格標準如附表三、四，用戶自用之檢驗項目及合格標準如附表五、六。

4.3 若申請人只申請基本速率接取界面或原級速率接取界面之檢驗，則只檢驗該接取界面。

4.4 ISDN 交換機與 110/119 集中受理電信終端設備介接通信協定之檢驗項目及合格標準如附表七 (本檢驗項目適用於基本速率接取界面及原級速率接取界面、廠商販賣及用戶自用)，通信介面資料格式及測試規範詳如附件一。【本檢驗項目為選測項目】。

4.5 基本速率接取界面測試項目表詳如附件二，原級速率接取界面測試項目表 (區



檢驗規範

分為T1【1.544Mbit/s】、E1【2.048Mbit/s】介面)詳如附件三、四。

- 4.6 基本速率接取界面之ISDN用戶電信終端設備若具備語音功能(指具備Speech或3.1KHz Audio Bearer Capability)，則需加測  $\mu$ -law及A-law 編解碼(CODEC)相互切換機能。且須於使用手冊上詳述  $\mu$ -law及A-law 編解碼(CODEC)相互切換之方法。
- 4.7 如設備原級速率接取界面(T1介面【1.544Mbit/s】)已經主管機關審驗通過，且該設備又同時支援T1介面(1.544Mbit/s)、E1介面(2.048Mbit/s)，在硬體(Hardware)部分完全相同，則只須補測實體層符合性測試項目。
- 4.8 檢驗項目之介面標準，須遵循ITU-T ISDN基本速率接取界面或原級速率接取界面第一、二、三層通信規約之規定。但基本速率接取界面或原級速率接取界面第二、三層得檢附符合性宣告書或他國審驗證明文件代之。
- 4.9 電磁相容規定  
符合CNS 13438標準。
- 4.10 電氣安全規定  
符合CNS 14336-1標準。



## 附表一

## 基本速率接取界面—廠商銷售 ISDN 用戶電信終端設備檢驗表

檢驗項目		合格標準
實體層符合性測試		
1	基本互連測試	PH/BS_IC
2	功能特性測試	PH/FN_CH
3	電氣特性測試	PH/ET_CH
4	饋電測試	PH/PW_FD
數據鏈路層符合性測試		
5	終端端點識別符 管理程序測試	LAPD/MGMT
6	複框操作測試	LAPD/MFO
7	系統參數測試	LAPD/SYSTEM
網路層符合性測試		
8	狀態 U0 測試	ISDN3/U0
9	狀態 U1 測試	ISDN3/U1
10	狀態 U3 測試	ISDN3/U3
11	狀態 U4 測試	ISDN3/U4
12	狀態 U8 測試	ISDN3/U8
13	狀態 U10 測試	ISDN3/U10
14	狀態 U11 測試	ISDN3/U11
15	狀態 U19 測試	ISDN3/U19



### 基本速率接取界面－用戶自用 ISDN 用戶電信終端設備檢驗表

檢驗項目		合格標準
1	實體層饋電測試	PH/PW_FD
2	基本呼叫連接測試	Basic Call Connection



## 原級速率接取界面－廠商銷售 ISDN 用戶電信終端設備檢驗表

(T1 介面【1.544Mbit/s】)

檢驗項目		合格標準
實體層符合性測試		
1	功能特性測試	PH/FN_CH
2	電氣特性測試	PH/ET_CH
數據鏈路層符合性測試		
3	複框操作測試	LAPD/MFO
4	系統參數測試	LAPD/SYSTEM
網路層符合性測試		
5	狀態 U0 測試	ISDN3/U0
6	狀態 U1 測試	ISDN3/U1
7	狀態 U3 測試	ISDN3/U3
8	狀態 U4 測試	ISDN3/U4
9	狀態 U8 測試	ISDN3/U8
10	狀態 U10 測試	ISDN3/U10
11	狀態 U11 測試	ISDN3/U11
12	狀態 U19 測試	ISDN3/U19



## 原級速率接取界面－廠商銷售 ISDN 用戶電信終端設備檢驗表

(E1 介面【2.048Mbit/s】)

檢驗項目		合格標準
實體層符合性測試		
1	功能特性測試	PH/FN_CH
2	電氣特性測試	PH/ET_CH
數據鏈路層符合性測試		
3	複框操作測試	LAPD/MFO
4	系統參數測試	LAPD/SYSTEM
網路層符合性測試		
5	狀態 U0 測試	ISDN3/U0
6	狀態 U1 測試	ISDN3/U1
7	狀態 U3 測試	ISDN3/U3
8	狀態 U4 測試	ISDN3/U4
9	狀態 U8 測試	ISDN3/U8
10	狀態 U10 測試	ISDN3/U10
11	狀態 U11 測試	ISDN3/U11
12	狀態 U19 測試	ISDN3/U19



原級速率接取界面－用戶自用 ISDN 用戶電信終端設備檢驗表

(T1 介面【1.544Mbit/s】)

檢驗項目		合格標準
1	基本呼叫連接測試	Basic Call Connection



原級速率接取界面－用戶自用 ISDN 用戶電信終端設備檢驗表

(E1 介面【2.048Mbit/s】)

檢驗項目		合格標準
1	基本呼叫連接測試	Basic Call Connection



## ISDN 交換機與 110/119 集中受理電信終端設備介接通信協

### 定檢驗表

ANI/ALI 介接符合性測試		
檢 驗 項 目		合 格 標 準
1	UI_ID=1 傳送測試	ANI_ALI/UI_1
2	UI_ID=1 重送測試	ANI_ALI/UI_2
3	UI_ID=2 傳送測試	ANI_ALI/UI_3

附件一

一、110/119 網路通信介面資料格式

110/119 網路通信介面 UI 訊息計有下列二種資料格式，定義如下：

(1). ISDN 交換機至 110/119 集中受理 ISDN CPE

UI_ID	ANI	Call_Class	User_ID	ALI
1 byte Char	10 bytes Char Array	1 byte Char (S：市話， P：公話，M：行動， R：Pager)	100 bytes Char Array	100 bytes Char Array

註：1. 資料長度不足之欄位一律補 '\0' char

2. 中文文字以 BIG 5 碼編碼

所有 ALI 相關資料共 211 bytes，分兩次透過 UI Message 傳送，第一次送 112 bytes(包括 UI\_ID=1, ANI, Call-Class 與 User\_ID 等四個欄位資料)，第二次送 101 bytes(包括 UI\_ID=2, ALI 等二個欄位資料)。

(2). 110/119 集中受理 ISDN CPE 至 ISDN 交換機

UI_ID	ALI_ACK
1 byte	1 byte

註：ALI\_Ack = 1 OK; =0 Failed



## 二、ISDN 交換機與 110/119 集中受理電信終端設備 ANI/ALI 介接通信協定認證測試 規範

### (一)、範圍

本測試規範含一測試群組(Test Group)，共計三測試項(Test Case)，同時適用於測試 BRI/PRI 介面。

待測物(IUT - Implementation Under Test)必須先通過 ISDN BRA/PRA 介面符合性測試。

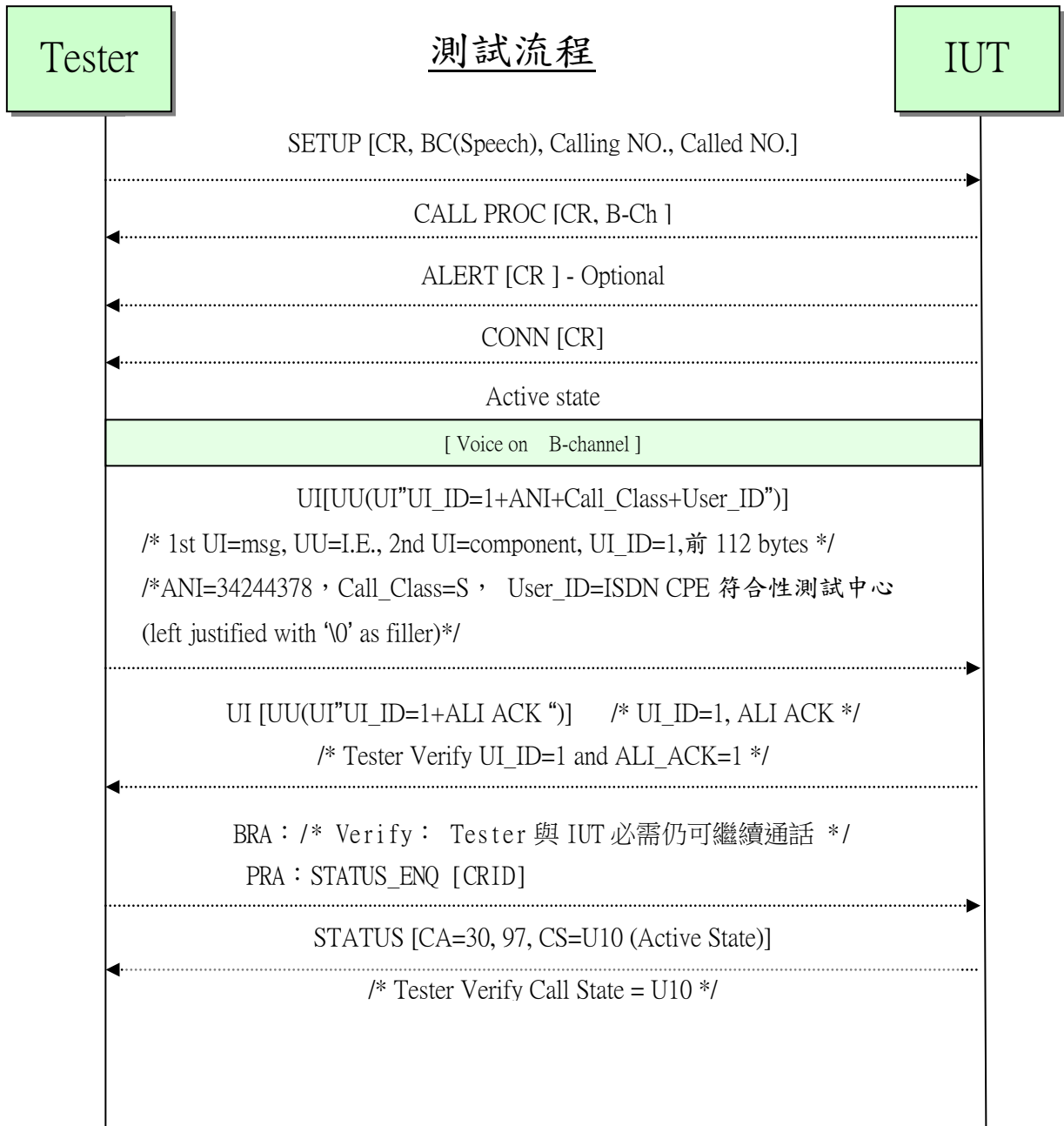
### (二)、內容

如後：



Test Id: UI\_1

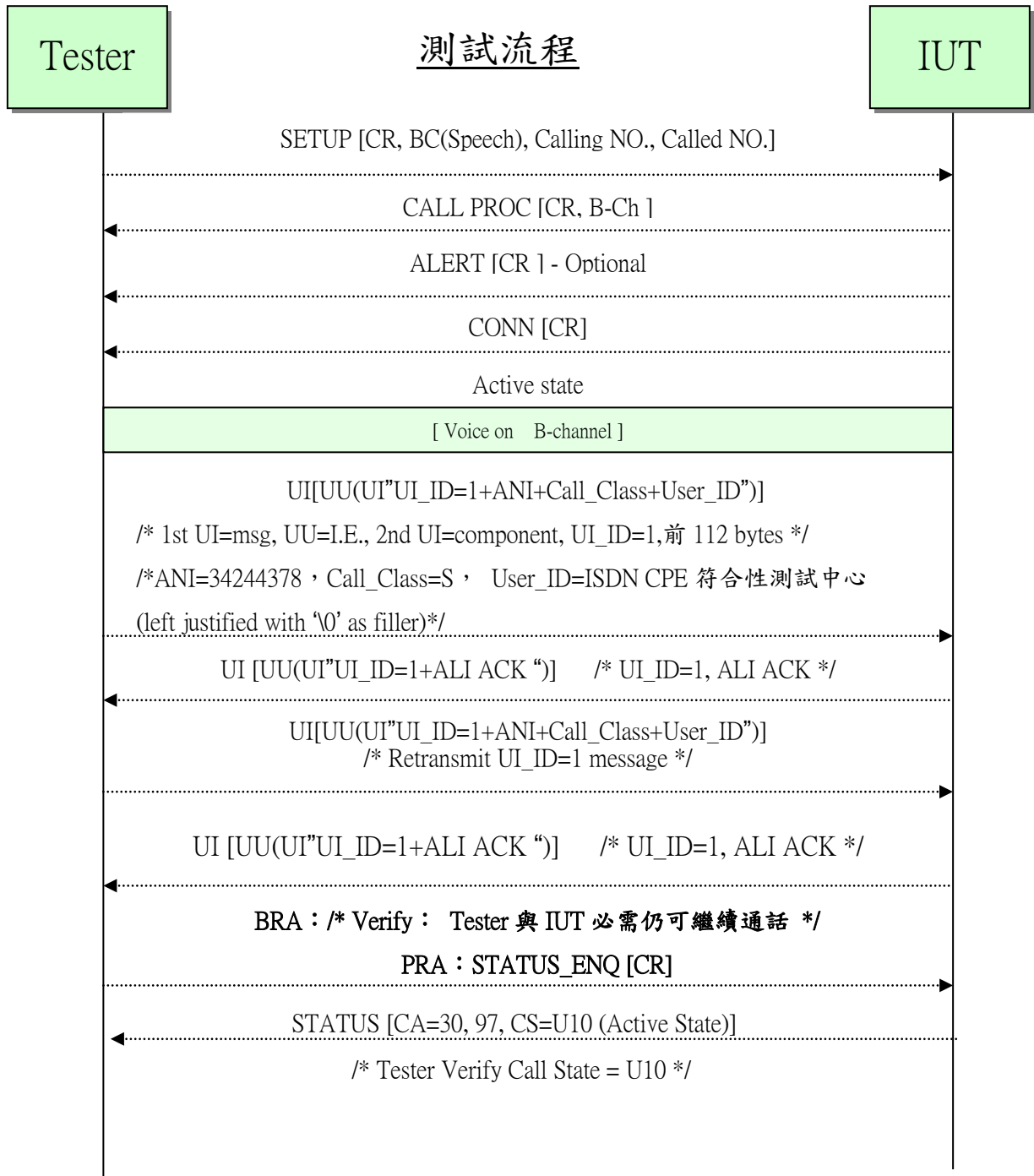
Test Purpose: Ensure that on receipt of a UI(UI\_ID=1) message the IUT responds with UI(ACK UI\_ID=1) and remains in U10 state





Test Id: UI\_2

Test Purpose: Ensure that on receipt of a retransmitted UI(UI\_ID=1) message the IUT responds with UI(ACK UI\_ID=1) and remains in U10 state





Test Group: ANI/ALI

Test Id: UI\_3

Test Purpose: Ensure that on receipt of a UI(UI\_ID=2) message the IUT responds with UI(ACK UI\_ID=2), remains in U10 state and Displays all the provided information



## 基本速率接取界面測試項目表

### 1. Layer 1 Conformance Test

Test Suite: CHT-96-BA-L1      Verdicts Assigned

PASS: 06

FAIL: 0

INCONC:0

Selected Cases:      06

Test Identifier	ITU-T REC. I. 430	Verdict
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Test Group: Basic Interconnection Test

3.	Basic Interconnection Test	--(註)	PASS
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Test Group: Binary Organization of Frame

4.1.1	TEST A	5.4.2.1	PASS
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4.1.2	TEST B	6.2.2	PASS
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Test Group: Electrical Characteristics Test

6.8.2	Receiver Sensitivity	8.6.2.1	PASS
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Test Group: Power Feeding

7.1.1.1	NORMAL POWER PROVISION--TEST A	9.3.1.1	PASS
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7.1.2.1	RESTRICTED POWER PROVISION--TEST A	9.3.2.1	PASS
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註：'--' 表示無相對應章節。

## 2. Layer 2 Conformance Test

Test Suite: CHT-96-BA-L2

Verdicts Assigned

PASS:63

FAIL: 0

INCONC:0

Selected Cases: 63

Test Identifier	ITU-T REC. Q.921	Verdict
Test Group: DM70_V State 7.0 Valid Frms		
DM70_V01	ID-Assigned : Ai Duplicated	5.3.2 PASS
DM70_V02	ID-Assigned : Ai Non Matching	5.3.2 PASS
DM70_V05	ID-Chk-Request : Ai Match	5.3.3.1 PASS
DM70_V06	ID-Chk-Request : Ai=127	5.3.3.1 PASS
DM70_V11	ID-Remove : Ai=127	5.3.4 PASS
DM70_V12	ID-Remove : Ai Match	5.3.4 PASS
DM70_V13	UA/F=1	5.8.7 PASS
DM70_V14	UA/F=0	5.8.7 PASS
Test Group: DM80_V State 8.0 Valid Frms		
DM80_V01	ID-Assigned : Ai Duplicated	5.3.2 PASS
DM80_V02	ID-Assigned : Ai Non Matching	5.3.2 PASS
DM80_V05	ID-Chk-Request : Ai Match	5.3.3.1 PASS
DM80_V06	ID-Chk-Request : Ai=127	5.3.3.1 PASS
DM80_V11	ID-Remove : Ai=127	5.3.4 PASS
DM80_V12	ID-Remove : Ai Match	5.3.4 PASS
DM80_V13	UA/F=1	5.8.7 PASS
DM80_V14	UA/F=0	5.8.7 PASS
Test Group: DS70_V State 7.0 Valid Frms		
DS70_V01	Window Rotation	5.9.5 PASS
Test Group: DL70_V State 7.0 Valid Frms		
DL70_V08	SABME/P=1	5.5.2 PASS
DL70_V10	SABME/P=0	5.5.2 PASS
DL70_V12	DISC/P=1	5.5.3.2 PASS
DL70_V13	DISC/P=0	5.5.3.2 PASS
DL70_V14	DM/F=0	5.7.1 PASS



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DL70_V16	DM/F=1	5.8.7	PASS
DL70_V17	FRMR : Reject RR	5.7.1	PASS
DL70_V20	RR/P=1 : N(R)=V(S)	5.6.5	PASS
DL70_V21	RR/P=0 : N(R)=V(S)	5.6.5	PASS
DL70_V23	RR/F=0 : N(R)=V(S)	5.6.5	PASS
DL70_V30	REJ/P=1 : N(R)=V(S)	5.6.4	PASS
DL70_V31	REJ/P=0 : N(R)=V(S)	5.6.4	PASS
DL70_V32	REJ/F=0 : N(R)=V(S)	5.8.7	PASS
DL70_V36	RNR/P=1 : N(R)=V(S)	5.6.5	PASS
DL70_V37	RNR/P=0 : N(R)=V(S)	5.6.5	PASS
DL70_V39	RNR/F=0 : N(R)=V(S)	5.6.5	PASS
DL70_V44	I/P=1 : N(S)=V(R), N(R)=V(S)	5.6.2.1	PASS
DL70_V45	I/P=0 : N(S)=V(R), N(R)=V(S)	5.6.2.2	PASS
DL70_V46	I/P=1 : N(S)<>V(R), N(R)=V(S)	5.8.1	PASS
DL70_V47	I/P=0 : N(S)<>V(R), N(R)=V(S)	5.8.1	PASS
DL70_V57	T203 Timeout	5.10.3.3	PASS
Test Group: DL80_V State 8.0 Valid Frms			
DL80_V08	SABME/P=1	5.5.2	PASS
DL80_V10	SABME/P=0	5.5.2	PASS
DL80_V12	DISC/P=1	5.5.3.2	PASS
DL80_V13	DISC/P=0	5.5.3.2	PASS
DL80_V14	DM/F=1	5.7.1	PASS
DL80_V15	DM/F=0	5.7.1	PASS
DL80_V17	FRMR : Reject RR	5.7.1	PASS
DL80_V20	RR/P=1 : V(A)<=N(R)<=V(S)	5.6.5	PASS
DL80_V21	RR/P=0 : V(A)<=N(R)<=V(S)	5.6.5	PASS
DL80_V22	RR/F=1 : V(A)<=N(R)<=V(S)	5.6.5	PASS
DL80_V23	RR/F=0 : V(A)<=N(R)<=V(S)	5.6.5	PASS
DL80_V24	REJ/P=1 : V(A)<=N(R)<=V(S)	5.6.4	PASS
DL80_V25	REJ/P=0 : V(A)<=N(R)<=V(S)	5.6.4	PASS
DL80_V26	REJ/F=1 : V(A)<=N(R)<=V(S)	5.6.4	PASS
DL80_V27	REJ/F=0 : V(A)<=N(R)<=V(S)	5.6.4	PASS
DL80_V28	RNR/P=1 : V(A)<=N(R)<=V(S)	5.6.5	PASS
DL80_V29	RNR/P=0 : V(A)<=N(R)<=V(S)	5.6.5	PASS
DL80_V30	RNR/F=1 : V(A)<=N(R)<=V(S)	5.6.5	PASS
DL80_V31	RNR/F=0 : V(A)<=N(R)<=V(S)	5.6.5	PASS
DL80_V32	I/P=1 : N(S)=V(R), N(R)=V(S)	5.6.2.1	PASS
DL80_V33	I/P=0 : N(S)=V(R), N(R)=V(S)	5.6.2.2	PASS



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DL80_V34	I/P=1 : N(S)<>V(R), N(R)=V(S)	5.8.1	PASS
DL80_V35	I/P=0 : N(S)<>V(R), N(R)=V(S)	5.8.1	PASS
DL80_V44	T200 Timeout, RC=N200	5.6.7	PASS
DL80_V46	T200 Timeout, RC<N200, V(A)=V(S)	5.6.7	PASS

### 3. Layer 3 Conformance Test Summary Report

Test Suite: CHT-96-BA-L3 Verdicts Assigned

PASS: 57

FAIL: 0

INCONC: 0

Selected Cases: 57

Test Identifier ITU-T REC. Q.931 Verdict

Test Group: Basic Interconnection Tests

1. Incoming Call (#21003)	5.3.3	PASS
2. Outgoing Call (#11105)	5.3.4	PASS
3. Outgoing Call (#11106) ( A law call)	5.3.4	PASS
4. Outgoing Call (#11107) ( U law call)	5.3.4	PASS

Test Group: U0 TESTS

#10001: [RC2(1, 16), NO_MSG]	5.8.3	PASS
#10002: [RL3(1, 16), RC_81]	5.8.3.2b)	PASS
#10005: [SU3(BC, CD#, LLC, HLC), AL+CN+CP]	5.2.4	PASS
#10006: [SU2(SCI, BC, CD#, LLC, HLC), AL+CN+CP]	5.2.5	PASS
#10007: [SU6(BC, LLC, HLC), AL+CN+CP]	5.2.6	PASS
#10008: [SU4(IBCAP, LLC, HLC), RC_88+NO_MSG]	5.2.2	PASS
#20002: [<IUT!SETUP>, SU]	5.1.3	PASS

Test Group: U1 TESTS

#10101: [CP2, NO_MSG, U3]	5.1.5.1	PASS
#10102: [RC2(1, 16), NO_MSG, U0]	5.8.4	PASS
#10103: [RL3(1, 16), RC]	5.3.2	PASS
#10106: [SQ2, ST]	5.8.10	PASS

Test Group: U3 TESTS

#10301: [AL2, NO_MSG, U4]	5.1.7	PASS
#10302: [CN2, ST(97, 8, 101)+SQ+CA+NO_MSG]	5.1.8	PASS



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#10303:	[DI2(1, 16), RL]	5.3.4	PASS
#10304:	[IN2(1), NO_MSG]	5.2.4	PASS
#10305:	[PG2, NO_MSG]	5.1.6	PASS
#10306:	[RC2(1, 16), NO_MSG, U0]	5.8.4	PASS
#10307:	[RL3(1, 16), RC]	5.3.4	PASS
#10308:	[SQ2, ST]	5.8.10	PASS
#20301:	[<IUT!DISC>, DI_16]	5.3.3	PASS
Test Group: U4 TESTS			
#10401:	[CN2, CA+NO_MSG]	5.1.8	PASS
#10402:	[DI2(1, 16), RL]	5.3.4	PASS
#10403:	[IN2(1), NO_MSG]	5.2.4	PASS
#10404:	[PG2, NO_MSG ST]	5.1.6	PASS
#10405:	[RC2(1, 16), NO_MSG, U0]	5.8.4	PASS
#10406:	[RL3(1, 16), RC]	5.8.4	PASS
#10407:	[SQ2, ST]	5.8.10	PASS
#20401:	[<IUT!DISC>, DI_16]	5.3.3	PASS
Test Group: U8 TESTS			
#10801:	[CA2, NO_MSG, U10]	5.2.7	PASS
#10802:	[DI2(0, 16), RL]	5.3.4	PASS
#10803:	[IN2(0), NO_MSG]	5.2.4	PASS
#10804:	[RC2(0, 16), NO_MSG, U0]	5.8.4	PASS
#10805:	[RL3(0, 16), RC]	5.3.2	PASS
#10806:	[SQ2, ST]	5.8.10	PASS
#20801:	[T313(4S) TIMEOUT, DI]	5.2.8	PASS
Test Group: U10 TESTS			
#11001:	[DI2(0, 16), RL]	5.3.4	PASS
#11002:	[IN2(0), NO_MSG]	5.2.4	PASS
#11003:	[NO2(0), NO_MSG]	5.9	PASS
#11004:	[RC2(0, 16), NO_MSG, U0]	5.8.4	PASS
#11005:	[RL3(0, 16), RC]	5.8.4	PASS
#11006:	[SQ2, ST]	5.8.10	PASS
#21003:	[<IUT!DISC>, DI_16]	5.3.3	PASS
Test Group: U11 TESTS			
#11101:	[DI2(1, 16), RL]	5.3.5	PASS
#11102:	[IN2(1), NO_MSG]	5.2.4	PASS
#11103:	[NO2(1), NO_MSG ST]	5.9	PASS
#11104:	[RC2(1, 16), NO_MSG, U0]	5.8.4	PASS
#11105:	[RL3(1, 16), RC]	5.3.4	PASS



檢驗規範

#21101: *[T305(30S) TIMEOUT, RL]	5.3.3	PASS
Test Group: U19 TESTS		
#11902: [IN2(0), NO_MSG ST]	5	PASS
#11903: [RC2(0,16), NO_MSG, U0]	5.3.4	PASS
#11904: [RL3(0,16), NO_MSG, U0]	5.3.5	PASS
#11905: [SQ2, ST]	5.8.10	PASS
#21901: *[T308(4S) TIMEOUT, RL]	5.3.3	PASS

附件三

原級速率接取界面測試項目表

(T1 介面【1.544Mbit/s】)

## 1. Layer 1 Conformance Test System Summary Report

Test Suite: CHT-96-PA-L1                      Verdicts Assigned  
PASS:                      5  
FAIL:                      0  
INCONC:                      0

Selected Cases:                      5

Test Identifier	ITU-T REC. I.431	Verdict
Test Group: Electrical/Functional characteristic test		
1. Line code	4.1.3	PASS
2. Pulse shape	4.1.4.2	PASS
3. Interframe time fill	4.6.2	PASS
4. Bit rate	4.1.1	PASS
5. Jitter	4.5.1	PASS

## 2. Layer 2 Conformance Test System Summary Report

Test Suite: CHT-96-PA-L2

Verdicts Assigned

PASS:74

FAIL: 0

INCONC:0

Selected Cases: 74

Test Identifier	ITU-T REC. Q. 921	Verdict
Test Group: DS70_V State 7.0 Valid Frms		
DS70_V01 Window Rotation	5.9.5	PASS
Test Group: DL40_V State 4.0 Valid Frms		
DL40_V04 SABME/P=1	5.5.1.2	PASS
DL40_V06 SABME/P=0	5.5.1.2	PASS
DL40_V08 DISC/P=1	5.5.4	PASS
DL40_V09 DISC/P=0	5.5.4	PASS
DL40_V10 DM/F=1	5.5.4	PASS
DL40_V11 DM/F=0	5.5.4	PASS
Test Group: DL70_V State 7.0 Valid Frms		
DL70_V03 I Frame in Queue : Window Open	5.6.1	PASS
D170_V08 SABME/P=1	5.5.2	PASS
DL70_V10 SABME/P=0	5.5.2	PASS
DL70_V12 DISC/P=1	5.5.3.2	PASS
DL70_V13 DISC/P=0	5.5.3.2	PASS
DL70_V14 DM/F=0	5.7.1	PASS
DL70_V16 DM/F=1	5.8.7	PASS
DL70_V17 FRMR : Reject RR	5.7.1	PASS
DL70_V20 RR/P=1 : N(R)=V(S)	5.6.5	PASS
DL70_V21 RR/P=0 : N(R)=V(S)	5.6.5	PASS
DL70_V23 RR/F=0 : N(R)=V(S)	5.6.5	PASS
DL70_V27 RR/P=1 : V(A)=N(R)<V(S)	5.6.5	PASS
DL70_V28 RR/P=0 : V(A)=N(R)<V(S)	5.6.5	PASS
DL70_V29 RR/F=0 : V(A)=N(R)<V(S)	5.6.5	PASS
DL70_V30 REJ/P=1 : N(R)=V(S)	5.6.4	PASS
DL70_V31 REJ/P=0 : N(R)=V(S)	5.6.4	PASS



## 檢驗規範

DL70_V32	REJ/F=0 : $N(R)=V(S)$	5.8.7	PASS
DL70_V33	REJ/P=1 : $V(A)\leq N(R)<V(S)$	5.6.4	PASS
DL70_V34	REJ/P=0 : $V(A)\leq N(R)<V(S)$	5.6.4	PASS
DL70_V35	REJ/F=0 : $V(A)\leq N(R)<V(S)$	5.8.7	PASS
DL70_V36	RNR/P=1 : $N(R)=V(S)$	5.6.5	PASS
DL70_V37	RNR/P=0 : $N(R)=V(S)$	5.6.5	PASS
DL70_V39	RNR/F=0 : $N(R)=V(S)$	5.6.5	PASS
DL70_V40	RNR/P=1 : $V(A)\leq N(R)<V(S)$	5.6.5	PASS
DL70_V41	RNR/P=0 : $V(A)\leq N(R)<V(S)$	5.6.5	PASS
DL70_V43	RNR/F=0 : $V(A)\leq N(R)<V(S)$	5.6.5	PASS
DL70_V44	I/P=1 : $N(S)=V(R), N(R)=V(S)$	5.6.2.1	PASS
DL70_V45	I/P=0 : $N(S)=V(R), N(R)=V(S)$	5.6.2.2	PASS
DL70_V46	I/P=1 : $N(S)\langle V(R), N(R)=V(S)$	5.8.1	PASS
DL70_V47	I/P=0 : $N(S)\langle V(R), N(R)=V(S)$	5.8.1	PASS
DL70_V52	I/P=1 : $N(S)=V(R), V(A)=N(R)<V(S)$	5.6.2.1	PASS
DL70_V53	I/P=0 : $N(S)=V(R), V(A)=N(R)<V(S)$	5.6.2.2	PASS
DL70_V54	I/P=1 : $N(S)\langle V(R), V(A)=N(R)<V(S)$	5.8.1	PASS
DL70_V55	I/P=0 : $N(S)\langle V(R), V(A)=N(R)<V(S)$	5.8.1	PASS
DL70_V56	T200 Timeout, $RC<N200$	5.6.7	PASS
DL70_V57	T203 Timeout	5.10.3.3	PASS

## Test Group: DL80\_V State 8.0 Valid Frms

DL80_V03	I Frame in Queue : Window Open	5.6.1	PASS
DL80_V08	SABME/P=1	5.5.2	PASS
DL80_V10	SABME/P=0	5.5.2	PASS
DL80_V12	DISC/P=1	5.5.3.2	PASS
DL80_V13	DISC/P=0	5.5.3.2	PASS
DL80_V14	DM/F=1	5.7.1	PASS
DL80_V15	DM/F=0	5.7.1	PASS
DL80_V17	FRMR : Reject RR	5.7.1	PASS
DL80_V20	RR/P=1 : $V(A)\leq N(R)\leq V(S)$	5.6.5	PASS
DL80_V21	RR/P=0 : $V(A)\leq N(R)\leq V(S)$	5.6.5	PASS
DL80_V22	RR/F=1 : $V(A)\leq N(R)\leq V(S)$	5.6.5	PASS
DL80_V23	RR/F=0 : $V(A)\leq N(R)\leq V(S)$	5.6.5	PASS
DL80_V24	REJ/P=1 : $V(A)\leq N(R)\leq V(S)$	5.6.4	PASS
DL80_V25	REJ/P=0 : $V(A)\leq N(R)\leq V(S)$	5.6.4	PASS
DL80_V26	REJ/F=1 : $V(A)\leq N(R)\leq V(S)$	5.6.4	PASS
DL80_V27	REJ/F=0 : $V(A)\leq N(R)\leq V(S)$	5.6.4	PASS



## 檢驗規範

DL80_V28	RNR/P=1 : $V(A) \leq N(R) \leq V(S)$	5.6.5	PASS
DL80_V29	RNR/P=0 : $V(A) \leq N(R) \leq V(S)$	5.6.5	PASS
DL80_V30	RNR/F=1 : $V(A) \leq N(R) \leq V(S)$	5.6.5	PASS
DL80_V31	RNR/F=0 : $V(A) \leq N(R) \leq V(S)$	5.6.5	PASS
DL80_V32	I/P=1 : $N(S)=V(R), N(R)=V(S)$	5.6.2.1	PASS
DL80_V33	I/P=0 : $N(S)=V(R), N(R)=V(S)$	5.6.2.2	PASS
DL80_V34	I/P=1 : $N(S) \langle \rangle V(R), N(R)=V(S)$	5.8.1	PASS
DL80_V35	I/P=0 : $N(S) \langle \rangle V(R), N(R)=V(S)$	5.8.1	PASS
DL80_V40	I/P=1 : $N(S)=V(R), V(A)=N(R) \langle V(S)$	5.6.2.1	PASS
DL80_V41	I/P=0 : $N(S)=V(R), V(A)=N(R) \langle V(S)$	5.6.2.2	PASS
DL80_V42	I/P=1 : $N(S) \langle \rangle V(R), V(A)=N(R) \langle V(S)$	5.8.1	PASS
DL80_V43	I/P=0 : $N(S) \langle \rangle V(R), V(A)=N(R) \langle V(S)$	5.8.1	PASS
DL80_V44	T200 Timeout, $RC=N200$	5.6.7	PASS
DL80_V45	T200 Timeout, $RC \langle N200, V(A) \langle V(S)$	5.6.7	PASS
DL80_V46	T200 Timeout, $RC \langle N200, V(A)=V(S)$	5.6.7	PASS

### 3. Layer 3 Conformance Test System Summary Report

Test Suite: CHT-96-PA-L3

Verdicts Assigned

PASS: 55

FAIL: 0

INCONC: 0

Selected Cases: 55

Test Identifier	ITU-T REC. Q. 931	Verdict
-----------------	-------------------	---------

Test Group: Basic Interconnection Tests

- |                           |       |      |
|---------------------------|-------|------|
| 1. Incoming Call (#21003) | 5.3.3 | PASS |
| 2. Outgoing Call (#11105) | 5.3.4 | PASS |

Test Group: U0 TESTS

- |   |           |      |
|---|-----------|------|
| #10001: [RC2(1, 16), NO_MSG]                    | 5.8.3     | PASS |
| #10002: [RL3(1, 16), RC_81]                     | 5.8.3.2B) | PASS |
| #10005: [SU3(BC, CD#, LLC, HLC), AL+CN+CP]      | 5.2.4     | PASS |
| #10006: [SU2(SCI, BC, CD#, LLC, HLC), AL+CN+CP] | 5.2.5     | PASS |
| #10007: [SU6(BC, LLC, HLC), AL+CN+CP]           | 5.2.6     | PASS |
| #10008: [SU4(IBCAP, LLC, HLC), RC_88+NO_MSG]    | 5.2.2     | PASS |
| #20002: [<IUT!SETUP>, SU]                       | 5.1.3     | PASS |

Test Group: U1 TESTS

- |                                  |         |      |
|----------------------------------|---------|------|
| #10101: [CP2, NO_MSG, U3]        | 5.1.5.1 | PASS |
| #10102: [RC2(1, 16), NO_MSG, U0] | 5.8.4   | PASS |
| #10103: [RL3(1, 16), RC]         | 5.3.2   | PASS |
| #10106: [SQ2, ST]                | 5.8.10  | PASS |

Test Group: U3 TESTS

- |  |        |      |
|--|--------|------|
| #10301: [AL2, NO_MSG, U4]                  | 5.1.7  | PASS |
| #10302: [CN2, ST(97, 8, 101)+SQ+CA+NO_MSG] | 5.1.8  | PASS |
| #10303: [DI2(1, 16), RL]                   | 5.3.4  | PASS |
| #10304: [IN2(1), NO_MSG]                   | 5.2.4  | PASS |
| #10305: [PG2, NO_MSG]                      | 5.1.6  | PASS |
| #10306: [RC2(1, 16), NO_MSG, U0]           | 5.8.4  | PASS |
| #10307: [RL3(1, 16), RC]                   | 5.3.4  | PASS |
| #10308: [SQ2, ST]                          | 5.8.10 | PASS |
| #20301: [<IUT!DISC>, DI_16]                | 5.3.3  | PASS |



## Test Group: U4 TESTS

#10401:	[CN2, CA+NO_MSG]	5.1.8	PASS
#10402:	[DI2(1, 16), RL]	5.3.4	PASS
#10403:	[IN2(1), NO_MSG]	5.2.4	PASS
#10404:	[PG2, NO_MSG ST]	5.1.6	PASS
#10405:	[RC2(1, 16), NO_MSG, U0]	5.8.4	PASS
#10406:	[RL3(1, 16), RC]	5.8.4	PASS
#10407:	[SQ2, ST]	5.8.10	PASS
#20401:	[<IUT!DISC>, DI_16]	5.3.3	PASS

## Test Group: U8 TESTS

#10801:	[CA2, NO_MSG, U10]	5.2.7	PASS
#10802:	[DI2(0, 16), RL]	5.3.4	PASS
#10803:	[IN2(0), NO_MSG]	5.2.4	PASS
#10804:	[RC2(0, 16), NO_MSG, U0]	5.8.4	PASS
#10805:	[RL3(0, 16), RC]	5.3.2	PASS
#10806:	[SQ2, ST]	5.8.10	PASS
#20801:	[T313(4S) TIMEOUT, DI]	5.2.8	PASS

## Test Group: U10 TESTS

#11001:	[DI2(0, 16), RL]	5.3.4	PASS
#11002:	[IN2(0), NO_MSG]	5.2.4	PASS
#11003:	[NO2(0), NO_MSG]	5.9	PASS
#11004:	[RC2(0, 16), NO_MSG, U0]	5.8.4	PASS
#11005:	[RL3(0, 16), RC]	5.8.4	PASS
#11006:	[SQ2, ST]	5.8.10	PASS
#21003:	[<IUT!DISC>, DI_16]	5.3.3	PASS

## Test Group: U11 TESTS

#11101:	[DI2(1, 16), RL]	5.3.5	PASS
#11102:	[IN2(1), NO_MSG]	5.2.4	PASS
#11103:	[NO2(1), NO_MSG ST]	5.9	PASS
#11104:	[RC2(1, 16), NO_MSG, U0]	5.8.4	PASS
#11105:	[RL3(1, 16), RC]	5.3.4	PASS
#21101:	*[T305(30S) TIMEOUT, RL]	5.3.3	PASS

## Test Group: U19 TESTS

#11902:	[IN2(0), NO_MSG ST]	5	PASS
#11903:	[RC2(0, 16), NO_MSG, U0]	5.3.4	PASS
#11904:	[RL3(0, 16), NO_MSG, U0]	5.3.5	PASS
#11905:	[SQ2, ST]	5.8.10	PASS
#21901:	*[T308(4S) TIMEOUT, RL]	5.3.3	PASS



## 原級速率接取界面測試項目表

(E1 介面【2.048Mbit/s】)

### 1. Layer 1 Conformance Test

Test Suite: CHT-98-PA-L1

Verdicts Assigned

PASS: 5

FAIL: 0

INCONC: 0

Selected Cases: 5

Test Identifier

ITU-T REC. I. 431

Verdict

Test Group: Electrical/Functional  
characteristic test

1. Bit rate	5.3	PASS
2. Line code	5.1	PASS
3. Pulse shape (1)	5.1	PASS
4. Pulse shape (2)	5.1	PASS
5. Idle channel code	5.2.4.2	PASS

## 2. Layer 2 Conformance Test System Summary Report

Test Suite: CHT-96-PA-L2

Verdicts Assigned

PASS:74

FAIL: 0

INCONC:0

Selected Cases: 74

Test Identifier	ITU-T REC. Q. 921	Verdict
Test Group: DS70_V State 7.0 Valid Frms		
DS70_V01 Window Rotation	5.9.5	PASS
Test Group: DL40_V State 4.0 Valid Frms		
DL40_V04 SABME/P=1	5.5.1.2	PASS
DL40_V06 SABME/P=0	5.5.1.2	PASS
DL40_V08 DISC/P=1	5.5.4	PASS
DL40_V09 DISC/P=0	5.5.4	PASS
DL40_V10 DM/F=1	5.5.4	PASS
DL40_V11 DM/F=0	5.5.4	PASS
Test Group: DL70_V State 7.0 Valid Frms		
DL70_V03 I Frame in Queue : Window Open	5.6.1	PASS
D170_V08 SABME/P=1	5.5.2	PASS
DL70_V10 SABME/P=0	5.5.2	PASS
DL70_V12 DISC/P=1	5.5.3.2	PASS
DL70_V13 DISC/P=0	5.5.3.2	PASS
DL70_V14 DM/F=0	5.7.1	PASS
DL70_V16 DM/F=1	5.8.7	PASS
DL70_V17 FRMR : Reject RR	5.7.1	PASS
DL70_V20 RR/P=1 : N(R)=V(S)	5.6.5	PASS
DL70_V21 RR/P=0 : N(R)=V(S)	5.6.5	PASS
DL70_V23 RR/F=0 : N(R)=V(S)	5.6.5	PASS
DL70_V27 RR/P=1 : V(A)=N(R)<V(S)	5.6.5	PASS
DL70_V28 RR/P=0 : V(A)=N(R)<V(S)	5.6.5	PASS
DL70_V29 RR/F=0 : V(A)=N(R)<V(S)	5.6.5	PASS
DL70_V30 REJ/P=1 : N(R)=V(S)	5.6.4	PASS
DL70_V31 REJ/P=0 : N(R)=V(S)	5.6.4	PASS
DL70_V32 REJ/F=0 : N(R)=V(S)	5.8.7	PASS



## 檢驗規範

DL70_V33	REJ/P=1 : $V(A) \leq N(R) < V(S)$	5.6.4	PASS
DL70_V34	REJ/P=0 : $V(A) \leq N(R) < V(S)$	5.6.4	PASS
DL70_V35	REJ/F=0 : $V(A) \leq N(R) < V(S)$	5.8.7	PASS
DL70_V36	RNR/P=1 : $N(R) = V(S)$	5.6.5	PASS
DL70_V37	RNR/P=0 : $N(R) = V(S)$	5.6.5	PASS
DL70_V39	RNR/F=0 : $N(R) = V(S)$	5.6.5	PASS
DL70_V40	RNR/P=1 : $V(A) \leq N(R) < V(S)$	5.6.5	PASS
DL70_V41	RNR/P=0 : $V(A) \leq N(R) < V(S)$	5.6.5	PASS
DL70_V43	RNR/F=0 : $V(A) \leq N(R) < V(S)$	5.6.5	PASS
DL70_V44	I/P=1 : $N(S) = V(R), N(R) = V(S)$	5.6.2.1	PASS
DL70_V45	I/P=0 : $N(S) = V(R), N(R) = V(S)$	5.6.2.2	PASS
DL70_V46	I/P=1 : $N(S) < V(R), N(R) = V(S)$	5.8.1	PASS
DL70_V47	I/P=0 : $N(S) < V(R), N(R) = V(S)$	5.8.1	PASS
DL70_V52	I/P=1 : $N(S) = V(R), V(A) = N(R) < V(S)$	5.6.2.1	PASS
DL70_V53	I/P=0 : $N(S) = V(R), V(A) = N(R) < V(S)$	5.6.2.2	PASS
DL70_V54	I/P=1 : $N(S) < V(R), V(A) = N(R) < V(S)$	5.8.1	PASS
DL70_V55	I/P=0 : $N(S) < V(R), V(A) = N(R) < V(S)$	5.8.1	PASS
DL70_V56	T200 Timeout, $RC < N200$	5.6.7	PASS
DL70_V57	T203 Timeout	5.10.3.3	PASS
Test Group: DL80_V State 8.0 Valid Frms			
DL80_V03	I Frame in Queue : Window Open	5.6.1	PASS
DL80_V08	SABME/P=1	5.5.2	PASS
DL80_V10	SABME/P=0	5.5.2	PASS
DL80_V12	DISC/P=1	5.5.3.2	PASS
DL80_V13	DISC/P=0	5.5.3.2	PASS
DL80_V14	DM/F=1	5.7.1	PASS
DL80_V15	DM/F=0	5.7.1	PASS
DL80_V17	FRMR : Reject RR	5.7.1	PASS
DL80_V20	RR/P=1 : $V(A) \leq N(R) \leq V(S)$	5.6.5	PASS
DL80_V21	RR/P=0 : $V(A) \leq N(R) \leq V(S)$	5.6.5	PASS
DL80_V22	RR/F=1 : $V(A) \leq N(R) \leq V(S)$	5.6.5	PASS
DL80_V23	RR/F=0 : $V(A) \leq N(R) \leq V(S)$	5.6.5	PASS
DL80_V24	REJ/P=1 : $V(A) \leq N(R) \leq V(S)$	5.6.4	PASS
DL80_V25	REJ/P=0 : $V(A) \leq N(R) \leq V(S)$	5.6.4	PASS
DL80_V26	REJ/F=1 : $V(A) \leq N(R) \leq V(S)$	5.6.4	PASS
DL80_V27	REJ/F=0 : $V(A) \leq N(R) \leq V(S)$	5.6.4	PASS
DL80_V28	RNR/P=1 : $V(A) \leq N(R) \leq V(S)$	5.6.5	PASS
DL80_V29	RNR/P=0 : $V(A) \leq N(R) \leq V(S)$	5.6.5	PASS



## 檢驗規範

DL80_V30	RNR/F=1 : $V(A) \leq N(R) \leq V(S)$	5.6.5	PASS
DL80_V31	RNR/F=0 : $V(A) \leq N(R) \leq V(S)$	5.6.5	PASS
DL80_V32	I/P=1 : $N(S)=V(R)$ , $N(R)=V(S)$	5.6.2.1	PASS
DL80_V33	I/P=0 : $N(S)=V(R)$ , $N(R)=V(S)$	5.6.2.2	PASS
DL80_V34	I/P=1 : $N(S) < V(R)$ , $N(R)=V(S)$	5.8.1	PASS
DL80_V35	I/P=0 : $N(S) < V(R)$ , $N(R)=V(S)$	5.8.1	PASS
DL80_V40	I/P=1 : $N(S)=V(R)$ , $V(A)=N(R) < V(S)$	5.6.2.1	PASS
DL80_V41	I/P=0 : $N(S)=V(R)$ , $V(A)=N(R) < V(S)$	5.6.2.2	PASS
DL80_V42	I/P=1 : $N(S) < V(R)$ , $V(A)=N(R) < V(S)$	5.8.1	PASS
DL80_V43	I/P=0 : $N(S) < V(R)$ , $V(A)=N(R) < V(S)$	5.8.1	PASS
DL80_V44	T200 Timeout, $RC=N200$	5.6.7	PASS
DL80_V45	T200 Timeout, $RC < N200$ , $V(A) < V(S)$	5.6.7	PASS
DL80_V46	T200 Timeout, $RC < N200$ , $V(A)=V(S)$	5.6.7	PASS

### 3. Layer 3 Conformance Test

Test Suite: CHT-96-PA-L3

Verdicts Assigned

PASS: 55

FAIL: 0

INCONC: 0

Selected Cases: 55

Test Identifier

ITU-T REC. Q.931 Verdict

Test Group: Basic Interconnection Tests

- |                           |       |      |
|---------------------------|-------|------|
| 1. Incoming Call (#21003) | 5.3.3 | PASS |
| 2. Outgoing Call (#11105) | 5.3.4 | PASS |

Test Group: U0 TESTS

- |   |           |      |
|---|-----------|------|
| #10001: [RC2(1, 16), NO_MSG]                    | 5.8.3     | PASS |
| #10002: [RL3(1, 16), RC_81]                     | 5.8.3.2B) | PASS |
| #10005: [SU3(BC, CD#, LLC, HLC), AL+CN+CP]      | 5.2.4     | PASS |
| #10006: [SU2(SCI, BC, CD#, LLC, HLC), AL+CN+CP] | 5.2.5     | PASS |
| #10007: [SU6(BC, LLC, HLC), AL+CN+CP]           | 5.2.6     | PASS |
| #10008: [SU4(IBCAP, LLC, HLC), RC_88+NO_MSG]    | 5.2.2     | PASS |
| #20002: [<IUT!SETUP>, SU]                       | 5.1.3     | PASS |

Test Group: U1 TESTS

- |                                  |         |      |
|----------------------------------|---------|------|
| #10101: [CP2, NO_MSG, U3]        | 5.1.5.1 | PASS |
| #10102: [RC2(1, 16), NO_MSG, U0] | 5.8.4   | PASS |
| #10103: [RL3(1, 16), RC]         | 5.3.2   | PASS |
| #10106: [SQ2, ST]                | 5.8.10  | PASS |

Test Group: U3 TESTS

- |  |        |      |
|--|--------|------|
| #10301: [AL2, NO_MSG, U4]                  | 5.1.7  | PASS |
| #10302: [CN2, ST(97, 8, 101)+SQ+CA+NO_MSG] | 5.1.8  | PASS |
| #10303: [DI2(1, 16), RL]                   | 5.3.4  | PASS |
| #10304: [IN2(1), NO_MSG]                   | 5.2.4  | PASS |
| #10305: [PG2, NO_MSG]                      | 5.1.6  | PASS |
| #10306: [RC2(1, 16), NO_MSG, U0]           | 5.8.4  | PASS |
| #10307: [RL3(1, 16), RC]                   | 5.3.4  | PASS |
| #10308: [SQ2, ST]                          | 5.8.10 | PASS |
| #20301: [<IUT!DISC>, DI_16]                | 5.3.3  | PASS |



## Test Group: U4 TESTS

#10401:	[CN2, CA+NO_MSG]	5.1.8	PASS
#10402:	[DI2(1, 16), RL]	5.3.4	PASS
#10403:	[IN2(1), NO_MSG]	5.2.4	PASS
#10404:	[PG2, NO_MSG ST]	5.1.6	PASS
#10405:	[RC2(1, 16), NO_MSG, U0]	5.8.4	PASS
#10406:	[RL3(1, 16), RC]	5.8.4	PASS
#10407:	[SQ2, ST]	5.8.10	PASS
#20401:	[<IUT!DISC>, DI_16]	5.3.3	PASS

## Test Group: U8 TESTS

#10801:	[CA2, NO_MSG, U10]	5.2.7	PASS
#10802:	[DI2(0, 16), RL]	5.3.4	PASS
#10803:	[IN2(0), NO_MSG]	5.2.4	PASS
#10804:	[RC2(0, 16), NO_MSG, U0]	5.8.4	PASS
#10805:	[RL3(0, 16), RC]	5.3.2	PASS
#10806:	[SQ2, ST]	5.8.10	PASS
#20801:	[T313(4S) TIMEOUT, DI]	5.2.8	PASS

## Test Group: U10 TESTS

#11001:	[DI2(0, 16), RL]	5.3.4	PASS
#11002:	[IN2(0), NO_MSG]	5.2.4	PASS
#11003:	[NO2(0), NO_MSG]	5.9	PASS
#11004:	[RC2(0, 16), NO_MSG, U0]	5.8.4	PASS
#11005:	[RL3(0, 16), RC]	5.8.4	PASS
#11006:	[SQ2, ST]	5.8.10	PASS
#21003:	[<IUT!DISC>, DI_16]	5.3.3	PASS

## Test Group: U11 TESTS

#11101:	[DI2(1, 16), RL]	5.3.5	PASS
#11102:	[IN2(1), NO_MSG]	5.2.4	PASS
#11103:	[NO2(1), NO_MSG ST]	5.9	PASS
#11104:	[RC2(1, 16), NO_MSG, U0]	5.8.4	PASS
#11105:	[RL3(1, 16), RC]	5.3.4	PASS
#21101:	*[T305(30S) TIMEOUT, RL]	5.3.3	PASS

## Test Group: U19 TESTS

#11902:	[IN2(0), NO_MSG ST]	5	PASS
#11903:	[RC2(0, 16), NO_MSG, U0]	5.3.4	PASS
#11904:	[RL3(0, 16), NO_MSG, U0]	5.3.5	PASS
#11905:	[SQ2, ST]	5.8.10	PASS
#21901:	*[T308(4S) TIMEOUT, RL]	5.3.3	PASS