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IEEE P802.2c

Information technology — Telecommunications and information exchange between systems — Local and metropolitan area networks — Specific requirements —

Part 2: Logical link control

AMENDMENT 3: Conformance requirements

Technologies de l'information — Télécommunications et échange d'information entre systèmes — Réseaux locaux et métropolitains — Exigences spécifiques —

Partie 2: Contrôle de liaison logique

AMENDEMENT 3: Prescriptions de conformité

Reference number
ISO/IEC 8802-2:1994/Amd.3:1995(E)
IEEE P802.2c

Abstract: Conformance requirements for ISO/IEC 8802-2 : 1994 [ANSI/IEEE Std 802.2, 1994] are provided.
Keywords: Local area networks, protocols; logical link control

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International Standard ISO/IEC 8802-2:1994/Amd.3:1995(E)
IEEE P802.2c (Draft IEEE Standard)

Information technology—Telecommunications and information exchange between systems—Local and metropolitan area networks—Specific requirements—

Part 2: Logical link control

Amendment 3: Conformance requirements

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Amendment 3 to ISO/IEC 8802-2:1994

Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work.

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Amendment 3 to International Standard ISO/IEC 8802-2:1994 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 6, *Telecommunications and information exchange between systems*.

International Organization for Standardization/International Electrotechnical Commission
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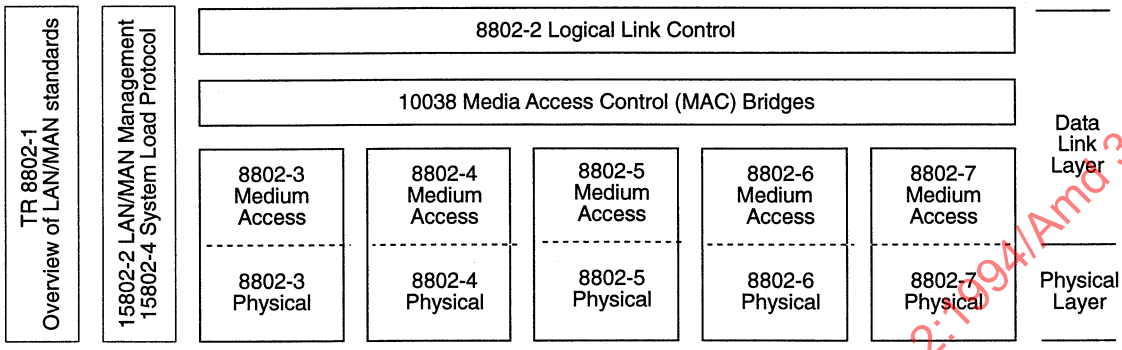
Foreword to ISO/IEC 8802-2:1994/Amd. 3:1995(E)

This International Standard is part of a family of International Standards for Local and Metropolitan Area Networks. The relationship between this International Standard and the other members of the family is shown below. (The numbers in the figure refer to ISO Standard numbers.)



This family of International Standards deals with the Physical and Data Link layers as defined by the ISO Open Systems Interconnection Basic Reference Model (ISO 7498 : 1984). The access standards define five types of medium access technologies and associated physical media, each appropriate for particular applications or system objectives. Other types are under investigation.

The International Standards defining the access technologies are as follows:

a) ISO/IEC 8802-3 [ANSI/IEEE Std 802.3, 1993 Edition], a bus utilizing CSMA/CD as the access method.
b) ISO/IEC 8802-4 [ANSI/IEEE Std 802.4-1990], a bus utilizing token passing as the access method.
c) ISO/IEC 8802-5 [ANSI/IEEE Std 802.5-1992], a ring utilizing token passing as the access method.
d) ISO/IEC 8802-6 [ANSI/IEEE Std 802.6, 1994 Edition], a dual bus utilizing distributed queuing as the access method.
e) ISO 8802-7, a ring utilizing slotted ring as the access method.

ISO/IEC TR 8802-1 provides an overview of the LAN/MAN standards, along with details of their document numbering.

ISO/IEC 8802-2 [ANSI/IEEE Std 802.2, 1994 Edition], *Logical link control*, is used in conjunction with the medium access standards to provide the data link layer service to network layer protocols.

ISO/IEC 10038 [ANSI/IEEE Std 802.1D, 1993 Edition], *Media Access Control (MAC) bridges*, specifies an architecture and protocol for the interconnection of IEEE 802 LANs below the level of the logical link control protocol.

ISO/IEC 15802-2 [ANSI/IEEE Std 802.1B, 1995 Edition], *LAN/MAN Management*, defines an Open Systems Interconnection (OSI) management-compatible architecture, and services and protocol elements for use in a LAN/MAN environment for performing remote management.

ISO/IEC 15802-4 [ANSI/IEEE Std 802.1E, 1994 Edition], *System Load Protocol*, specifies a set of services and protocol for those aspects of management concerned with the loading of systems in ISO/IEC LAN/MAN environments.

IEEE P802.2c (Draft IEEE Standard)

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Contents

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Amendment 3: Conformance requirements

NOTE—This amendment is a draft IEEE standard (IEEE P802.2c). When it has completed the IEEE approval process, it will be incorporated into the next edition of ISO/IEC 8802-2.

This amendment provides conformance requirements for ISO/IEC 8802-2 : 1994 [ANSI/IEEE Std 802.2, 1994 Edition]. These items are defined as a series of changes and additions to the existing text of ISO/IEC 8802-2 : 1994; the text therefore assumes all material, including references, abbreviations, definitions, services and protocols contained in the base text. The clause and subclause numbering in the following clauses corresponds to the clause and subclause numbering in the final document (i.e., when these additions are incorporated). Text shown in ***bold italics*** in the remainder of this document defines the editing instructions necessary to incorporate the changes and additions into ISO/IEC 8802-2 : 1994.

Add the following text to the end of 1.1 as a new paragraph:

"To evaluate conformance of a particular implementation, it is necessary to have a statement of which capabilities and options have been implemented. Such a statement is called a Protocol Implementation Conformance Statement (PICS), as defined in ISO/IEC 9646-1 : 1994. This International Standard provides such a PICS proforma in compliance with the relevant requirements, and in accordance with the relevant guidance given in ISO/IEC 9646-2."

Add the following two references to 1.3:

"ISO/IEC 9646-1 : 1994, Information technology—Open Systems Interconnection—Conformance testing methodology and framework—Part 1: General concepts.

ISO/IEC 9646-2 : 1994, Information technology—Open Systems Interconnection—Conformance testing methodology and framework—Part 2: Abstract Test Suite specification."

Add the following text at the end of 1.4.2:

"This International Standard uses the following terms as defined in ISO/IEC 9646-1 : 1994:

protocol implementation conformance statement, PICS
PICS proforma."

Add a new subclause (1.5) as follows:

1.5 Conformance

1.5.1 Static conformance

1.5.1.1 General requirements

An implementation that claims conformance to this International Standard shall implement the following:

a) LLC Type 1 operation as specified in 6.9.

1.5.1.2 Optional requirements

An implementation that claims conformance to this International Standard may implement any of the following options:

a) LLC Type 2 operation, or LLC Type 3 operation, or LLC Type 2 operation and LLC Type 3 operation. LLC Type 2 operation is specified in 7.9, and LLC Type 3 operation is specified in 8.7, or
b) The flow control technique as specified in annex B, or
c) Initiation of the Duplicate Address Check procedure as specified in 6.9, or
d) Initiation of the TEST function as specified in 6.7, or
e) The RDE as specified in clause 9.

1.5.2 Dynamic conformance

For each function that the PICS states to be supported, the implementation shall exhibit behavior consistent with the implementation of the following:

a) The corresponding data link layer procedures, and
b) The encoding of any transmitted frames

as specified in the clauses to which the PICS proforma entry for the function refers.

1.5.3 PICS proforma

The supplier of a protocol implementation that is claimed to conform to this International Standard shall complete a copy of the PICS proforma in annex A, including the information necessary to identify fully both the supplier and the implementation.

Add a new annex A as follows:

Annex A[1]

(normative)

PICS proforma

A.1 Introduction

The supplier of a protocol implementation that is claimed to conform to ISO/IEC 8802-2 : 1994 shall complete the following Protocol Implementation Conformance Statement (PICS) proforma.

A completed PICS proforma is the PICS for the implementation in question. The PICS is a statement of which capabilities and options of the protocol have been implemented. The PICS can have a number of uses, including use

- By the protocol implementor, as a checklist to reduce the risk of failure to conform to the standard through oversight
- By the supplier and acquirer, or potential acquirer, of the implementation, as a detailed indication of the capabilities of the implementation, stated relative to the common basis for understanding provided by the standard PICS proforma
- By the user, or potential user, of the implementation, as a basis for initially checking the possibility of interworking with another implementation (note that, while interworking can never be guaranteed, failure to interwork can often be predicted from incompatible PICS proformas)
- By a protocol tester, as the basis for selecting appropriate tests against which to assess the claim for conformance of the implementation

A.2 Abbreviations and special symbols

A.2.1 Status symbols

M	Mandatory field/function
O	Optional field/function
O.<n>	Optional field/function, but support of at least one of the group of options labeled by the same numeral <*n*> is required
X	Prohibited
<pred>:	Conditional item symbol, including predicate identification (see A.3.4), applicable to a particular item
<pred>::	Conditional item symbol, including predicate identification (see A.3.4), applicable to a table or a group of tables
<item>:	Conditional symbol, status is dependent on the support marked for <item> (see A.3.4)

A.2.2 General abbreviations

N/A	Not applicable
PICS	Protocol Implementation Conformance Statement

[1] *Copyright release for PICS proformas:* Users of this standard may freely reproduce the PICS proforma in this annex so that it can be used for its intended purpose and may further publish the completed PICS.

A.2.3 Item references

The following is a list of item references used in the PICS proforma:

Major capabilities:

CLS	Class of LLC supported
RDE	Route Determination Entity

LLC Type 1:

MIS	Miscellaneous protocol features
TES	TEST PDUs
TSR	Parameters in received TEST PDUs
TST	Parameters in transmitted TEST PDUs
UI	UI PDUs
UIR	Parameters in received UI PDUs
UIT	Parameters in transmitted UI PDUs
XDR	Parameters in received XID PDUs
XDT	Parameters in transmitted XID PDUs
XID	XID PDUs

LLC Type 2:

DIC	DISC PDUs
DMR	DM PDUs
FRR	FRMR PDUs
IC	I_CMD PDUs
IP	I PDUs
IR	I_RSP PDUs
MIS	Miscellaneous protocol features
PPA	Protocol parameters
PPR	Parameters in received PDUs
PPT	Parameters in transmitted PDUs
PRS	Protocol procedures
RJC	REJ_CMD PDUs
RJR	REJ_RSP PDUs
RNC	RNR_CMD PDUs
RNR	RNR_RSP PDUs
RRC	RR_CMD PDUs
RRR	RR_RSP PDUs
SAC	SABME PDUs
UAR	UA PDUs

LLC Type 3:

AnC	ACn command PDUs
A0C	AC0_CMD PDUs
A0P	Parameters in received AC0 PDUs
A0R	AC0_RSP PDUs
A0T	Parameters in transmitted AC0 PDUs
A1C	AC1_CMD PDUs
A1P	Parameters in received AC1 PDUs
A1R	AC1_RSP PDUs

A1T	Parameters in transmitted AC1 PDUs
MIS	Miscellaneous protocol features
PPA	Protocol parameters
PRS	Protocol procedures

Route Determination Entity (RDE):

AGEE	Ageing Enabled indicator
AGEF	Ageing Function
F	Parameters in transmitted RDE PDUs
HLD	Route Determination Parameters—Hold
IRPE	Invalid RDE Frames Counter
ISRF	Specifically Routed Frames Counter
IST	Spanning Tree Routed Frames Counter
MNPD	Route Selection Parameters—Minimum PDU Size
MXRD	Route Selection Parameters—Maximum Number of Route Descriptors
MXRT	Route Selection Parameters—Maximum Response Time
RASM	Route Administration
RCR	Route Control Receive specification
RCS	Route Control Send specification
RDEE	Route Determination Parameters—RDE Enabled
RDEP	Discard PDUs on receipt
ROT	Reset on Test
RPL	Route Determination Parameters—Replace
RQC	ROUTE_QUERY_COMMAND PDUs
RQR	ROUTE_QUERY_RESPONSE PDUs
RRST	Route Reset Procedures
RS	ROUTE_SELECTED PDUs
RSSM	Route Selection
STR	Spanning Tree Route parameters
TRR	Route Response Timer
TRS	Route Selection Timer

A.3 Instructions for completing the PICS proforma

A.3.1 General structure of the PICS proforma

The first part of the PICS proforma, Implementation Identification and Protocol Summary, is to be completed as indicated with the information necessary to identify fully both the supplier and the implementation.

The main part of the PICS proforma is a fixed-format questionnaire, divided into subclauses, each containing a number of individual items. Answers to the questionnaire items are to be provided in the rightmost column, either by simply marking an answer to indicate a restricted choice (usually Yes, No, or N/A for Not Applicable) or by entering a value or a set or range of values.

NOTE—There are some items for which two or more choices from a set of possible answers can apply. All relevant choices are to be marked in these cases.

Each item is identified by an item reference in the first column. The second column contains the questions to be answered. The third column contains the reference or references to the material that specifies the item in the main body of ISO/IEC 8802-2 : 1994. The remaining columns record the status of the item, i.e., whether

support is mandatory, optional, prohibited or conditional, and provide the space for the answers; see also A.3.4.

A supplier may also provide, or be required to provide, further information, categorized as either Additional Information or Exception Information. When present, each kind of further information is to be provided in a further subclause of items labeled A<*i*> or X<*i*>, respectively, for cross-referencing purposes, where <*i*> is an unambiguous identification for the item (e.g., simply a numeral). There are no other restrictions on its format or presentation.

A completed PICS proforma, including any Additional Information and Exception Information, is the Protocol Implementation Conformance Statement for the implementation in question.

NOTE—Where an implementation is capable of being configured in more than one way, a single PICS may be able to describe all such configurations. However, the supplier has the choice of providing more than one PICS, each covering some subset of the implementation's configuration capabilities, if this makes for easier and clearer presentation of the information.

A.3.2 Additional information

Items of Additional Information allow a supplier to provide further information intended to assist the interpretation of the PICS. It is not intended or expected that a large quantity of information will be supplied and a PICS can be considered complete without any such information. Examples of Additional Information might be an outline of the ways in which a (single) implementation can be set up to operate in a variety of environments and configurations, or a brief rationale, based perhaps upon specific application requirements, for the exclusion of features that, although optional, are commonly present in implementations of the ISO/IEC 8802-2 : 1994 protocol.

References to items of Additional Information may be entered next to any answer in the questionnaire, and may be included in items of Exception Information.

A.3.3 Exception information

It may happen occasionally that a supplier will wish to answer an item with mandatory or prohibited status (after any conditions have been applied) in a way that conflicts with the indicated requirement. No preprinted answer will be found in the Support column for this. Instead, the supplier shall write the missing answer into the Support column, together with an X<*i*> reference to an item of Exception Information, and shall provide the appropriate rationale in the Exception Information item itself.

An implementation for which an Exception Information item is required in this way does not conform to ISO/IEC 8802-2 : 1994.

NOTE—A possible reason for the situation described above is that a defect in ISO/IEC 8802-2 : 1994 has been reported, a correction for which is expected to change the requirement not met by the implementation.

A.3.4 Conditional status

A.3.4.1 Conditional items

The PICS proforma contains a number of conditional items. These are items for which the status (mandatory, optional or prohibited) that applies is dependent upon whether or not certain other items are supported, or upon the values supported for other items.

In many cases, whether or not the item applies at all is conditional in this way, as well as the status when the item does apply.

Where a group of items is subject to the same condition for applicability, a separate preliminary question about the condition appears at the head of the group, with an instruction to skip to a later point in the questionnaire if the "Not Applicable" answer is selected. Otherwise, individual conditional items are indicated by one or more conditional symbols (on separate lines) in the status column.

A conditional symbol is of the form "<pred>:<s>" where "<pred>" is a predicate as described in A.3.4.2 below, and "<s>" is one of the status symbols M, O, O.<*n*>, or X.

If the value of the predicate in any line of a conditional item is true (see A.3.4.2), then the conditional item is applicable, and its status is that indicated by the status symbol following the predicate; the answer column is to be marked in the usual way. If the value of a predicate is false, the Not Applicable (N/A) answer is to be marked in the relevant line. Each line in a multi-line conditional item should be marked: at most one line will require an answer other than N/A.

A conditional symbol of the form "<pred>::" where "<pred>" is a predicate as described in A.3.4.2 below, may precede a table or a group of tables in a clause or a subclause. If the value of the predicate is true, answers shall be marked in the table or group of tables. Otherwise, the table or group of tables shall be skipped.

A.3.4.2 Predicates

A predicate is one of the following:

a) An item-reference for an item in the PICS proforma: the value of the predicate is true if the item is marked as supported, and is false otherwise.
b) A predicate name, for a predicate defined elsewhere in the PICS proforma (usually in the Major Capabilities section or at the end of the section containing the conditional item): see below.
c) The logical negation symbol "Ø" prefixed to an item-reference or predicate name: the value of the predicate is true if the value of the predicate formed by omitting the "Ø" symbol is false, and vice versa.

A.3.4.2.1 The definition for a predicate name

The definition for a predicate name is one of the following:

a) An item-reference, evaluated as at A.3.4.2a), or
b) A relation containing a comparison operator (=, >, etc.) with at least one of its operands being an item-reference for an item taking numerical values as its answer; the predicate is true if the relation holds when each item-reference is replaced by the value entered in the support column as answer to the item referred to, or
c) A boolean expression constructed by combining simple predicates, as in a) and b), using the boolean operators AND, OR and NOT, and parentheses, in the usual way; the value of such a predicate is true if the boolean expression evaluates to true when the simple predicates are interpreted as described above.

Each item whose reference is used in a predicate or predicate definition is indicated by an asterisk in the Item column.

A.3.5 Identification of requirements

The information in the PICS proforma does not supersede or augment the conformance requirements in the main body of ISO/IEC 8802-2 : 1994.

A.4 Identification

A.4.1 Implementation identification

Supplier	
Contact point for queries about the PICS	
Implementation Name(s) and Version(s)	
Other information necessary for full identification, e.g. name(s) and version(s) of machines and/or operating system(s), system names	

NOTES

1—Only the first three items are required for all implementations. Other information may be completed as appropriate in meeting the requirement for full identification.

2—The terms Name and Version should be interpreted appropriately to correspond with a supplier's terminology (e.g. Type, Series, Model etc.).

A.4.2 Protocol summary, ISO/IEC 8802-2 : 1994 [ANSI/IEEE Std 802.2, 1994 Edition]

Identification of Protocol Standard	ISO/IEC 8802-2 : 1994 [ANSI/IEEE Std 802.2, 1994 Edition]
Identification of Amendments and Corrigenda to this PICS proforma that have been completed as part of this PICS	ISO/IEC 8802-2 : 1994 [ANSI/IEEE Std 802.2, 1994 Edition] Amd. : Corr. : Amd. : Corr. :
Have any Exception items been required (see A.3.3)? Yes ☐ No ☐ (The answer Yes means that the implementation does not conform to ISO/IEC 8802-2 : 1994 [ANSI/IEEE Std 802.2, 1994 Edition]).	

Date of statement (dd/mm/yy)	

A.5 Major capabilities

Item	Protocol feature	References	Status	Support		
*CLS1a	Is Class I LLC supported?	4.2	O.1		Yes ☐	No ☐
CLS1b	Are LLC Type 1 procedures supported?	4.2	CLS1a:M	N/A ☐	Yes ☐	
*CLS2a	Is Class II LLC supported?	4.2	O.1		Yes ☐	No ☐
CLS2b	Are LLC Type 1 and Type 2 procedures supported?	4.2	CLS2a:M	N/A ☐	Yes ☐	
*CLS3a	Is Class III LLC supported?	4.2	O.1		Yes ☐	No ☐
CLS3b	Are LLC Type 1 and Type 3 procedures supported?	4.2	CLS3a:M	N/A ☐	Yes ☐	
*CLS4a	Is Class IV LLC supported?	4.2	O.1		Yes ☐	No ☐
CLS4b	Are LLC Type 1, Type 2, and Type 3 procedures supported?	4.2	CLS4a:M	N/A ☐	Yes ☐	
*RDE	Is Route Determination supported?	9	O		Yes ☐	No ☐

A.6 LLC Type 1 operation—Unacknowledged connectionless-mode

CLS1a *or* CLS2a *or* CLS3a *or* CLS4a::

All tables in clause A.6 are to be completed if above predicate evaluates to true.

A.6.1 LLC Type 1—Supported PDU types

Item	Protocol feature/ Supported PDU types	References	Status	Support		
UI/1	UI_CMD supported on transmission	6.1, 6.5.1	M		Yes ☐	
UI/2	UI_CMD supported on receipt	6.1, 6.5.2	M		Yes ☐	
*XID/3	XID_CMD supported on transmission	6.6	O		Yes ☐	No ☐
XID/4	XID_CMD supported on receipt	6.6	M		Yes ☐	
XID/5	XID_RSP supported on transmission	6.6	M		Yes ☐	
XID/6	XID_RSP supported on receipt	6.6	XID/3:M	N/A ☐	Yes ☐	
*TES/7	TEST_CMD supported on transmission	6.7	O		Yes ☐	No ☐
TES/8	TEST_CMD supported on receipt	6.7	M		Yes ☐	
TES/9	TEST_RSP supported on transmission	6.7	M		Yes ☐	
TES/10	TEST_RSP supported on receipt	6.7	TES/7:M	N/A ☐	Yes ☐	

A.6.2 LLC Type 1—Supported parameters in PDUs on transmission

Item	Protocol feature/ Supported parameters on transmission	References	Status	Support		
UIT/11	UI_CMD—DSAP address	6.2	M		Yes ☐	
UIT/12	UI_CMD—SSAP address	6.2	M		Yes ☐	
UIT/13	UI_CMD—P-bit = 0	6.3	M		Yes ☐	
UIT/14	UI_CMD—Information	3.3	O		Yes ☐	No ☐
XDT/15	XID_CMD—DSAP address	6.2, 6.6	XID/3:M	N/A ☐	Yes ☐	
XDT/16	XID_CMD—SSAP address	6.2, 6.6	XID/3:M	N/A ☐	Yes ☐	
XDT/17	XID_CMD—P-bit = 1	6.3	XID/3:O.2	N/A ☐	Yes ☐	No ☐
XDT/18	XID_CMD—P-bit = 0	6.3	XID/3:O.2	N/A ☐	Yes ☐	No ☐
XDT/19	XID_CMD—Information	5.4.1.1.2, 6.6	XID/3:M	N/A ☐	Yes ☐	
XDT/20	XID_RSP—DSAP address	6.2, 6.6	M		Yes ☐	
XDT/21	XID_RSP—SSAP address	6.2, 6.6	M		Yes ☐	
XDT/22	XID_RSP—F-bit = P-bit	6.3	M		Yes ☐	
XDT/23	XID_RSP—Information	5.4.1.2.1, 6.6	M		Yes ☐	
TST/24	TEST_CMD—DSAP address	6.2	TES/7:M	N/A ☐	Yes ☐	
TST/25	TEST_CMD—SSAP address	6.2	TES/7:M	N/A ☐	Yes ☐	
TST/26	TEST_CMD—P-bit = 1	6.3	TES/7:O.3	N/A ☐	Yes ☐	No ☐
TST/27	TEST_CMD—P-bit = 0	6.3	TES/7:O.3	N/A ☐	Yes ☐	No ☐
*TST/28	TEST_CMD—Information	5.4.1.1.3, 6.7	TES/7:O	N/A ☐	Yes ☐	No ☐
TST/29	TEST_RSP—DSAP address	6.2	M		Yes ☐	
TST/30	TEST_RSP—SSAP address	6.2	M		Yes ☐	
TST/31	TEST_RSP—F-bit = P-bit	6.3	M		Yes ☐	
TST/32	TEST_RSP—Information	5.4.1.2.2, 6.7	M		Yes ☐	

A.6.3 LLC Type 1—Supported parameters in PDUs on receipt

Item	Protocol feature/ Supported parameters on receipt	References	Status	Support	
UIR/33	UI_CMD—DSAP address	6.2	M	Yes ☐	
UIR/34	UI_CMD—SSAP address	6.2	M	Yes ☐	
UIR/35	UI_CMD—P-bit = 0	6.3	M	Yes ☐	
UIR/36	UI_CMD—Information	3.3	O	Yes ☐	No ☐
XDR/37	XID_CMD—DSAP address	6.2, 6.6	M	Yes ☐	
XDR/38	XID_CMD—SSAP address	6.2, 6.6	M	Yes ☐	
XDR/39	XID_CMD—P-bit = 1	6.3	M	Yes ☐	
XDR/40	XID_CMD—P-bit = 0	6.3	M	Yes ☐	
XDR/41	XID_CMD—Information	5.4.1.1.2, 6.6	M	Yes ☐	
XDR/42	XID_RSP—DSAP address	6.2, 6.6	M	Yes ☐	
XDR/43	XID_RSP—SSAP address	6.2, 6.6	M	Yes ☐	
XDR/44	XID_RSP—F-bit = P-bit	6.3	M	Yes ☐	
XDR/45	XID_RSP—Information	5.4.1.2.1, 6.6	M	Yes ☐	
TSR/46	TEST_CMD—DSAP address	6.2	M	Yes ☐	
TSR/47	TEST_CMD—SSAP address	6.2	M	Yes ☐	
TSR/48	TEST_CMD—P-bit = 1	6.3	M	Yes ☐	
TSR/49	TEST_CMD—P-bit = 0	6.3	M	Yes ☐	
TSR/50	TEST_CMD—Information	5.4.1.1.3, 6.7	M	Yes ☐	
TSR/51	TEST_RSP—DSAP address	6.2	M	Yes ☐	
TSR/52	TEST_RSP—SSAP address	6.2	M	Yes ☐	
TSR/53	TEST_RSP—F-bit = P-bit	6.3	M	Yes ☐	
TSR/54	TEST_RSP—Information	5.4.1.2.2, 6.7	TST/28:M	N/A ☐	Yes ☐

A.6.4 LLC Type 1—Miscellaneous

Item	Protocol feature/ Miscellaneous	References	Status	Support		
MIS/55	Do all transmitted PDUs contain an integral number of octets?	3.3	M	Yes ☐		
	If the following PDUs are received from the MAC sublayer, are they treated as invalid and ignored:					
MIS/56	—contains a non-integral number of octets	3.3.4	M	Yes ☐		
MIS/57	—has a length less than 3 octets	3.3.4	M	Yes ☐		
	Which of the following addresses are supported in the DSAP address field of UI PDUs?					
MIS/58	—individual address	5.4.1.1.1	O.4	Yes ☐	No ☐	
MIS/59	—group address	5.4.1.1.1	O.4	Yes ☐	No ☐	
MIS/60	—global address	5.4.1.1.1	O.4	Yes ☐	No ☐	
MIS/61	—null address	5.4.1.1.1	O.4	Yes ☐	No ☐	
MIS/62	Is the address in the SSAP address field of a UI PDU the originator's individual address?	5.4.1.1.1	M	Yes ☐		
MIS/63	Are all UI PDUs transmitted as UI_CMD PDUs?	6.5.1	M	Yes ☐		
MIS/64	Are all UI_CMD PDUs transmitted with the P-bit = 0?	6.5.1	M	Yes ☐		
MIS/65	If a UI_RSP PDU is received, is the frame discarded?	6.5.2	M	Yes ☐		
	Which of the following addresses are supported in the DSAP address field of XID_CMD PDUs?					
MIS/66	—individual address	5.4.1.1.2	XID/3:O.5	N/A ☐	Yes ☐	No ☐
MIS/67	—group address	5.4.1.1.2	XID/3:O.5	N/A ☐	Yes ☐	No ☐
MIS/68	—global address	5.4.1.1.2	XID/3:O.5	N/A ☐	Yes ☐	No ☐
MIS/69	—null address	5.4.1.1.2	XID/3:O.5	N/A ☐	Yes ☐	No ☐
	Which of the following addresses are supported in the SSAP address field of XID_CMD PDUs?					
MIS/70	—individual address	5.4.1.1.2	XID/3:O.6	N/A ☐	Yes ☐	No ☐
MIS/71	—null address	5.4.1.1.2	XID/3:O.6	N/A ☐	Yes ☐	No ☐
	Which of the following addresses are supported in the DSAP address field of XID_RSP PDUs?					
MIS/72	—individual address	5.4.1.2.1	M	Yes ☐		
MIS/73	—null address	5.4.1.2.1	M	Yes ☐		
	Which of the following addresses are supported in the SSAP address field of XID_RSP PDUs?					
MIS/74	—individual address	5.4.1.2.1	M	Yes ☐		
MIS/75	—null address	5.4.1.2.1	M	Yes ☐		

Item	Protocol feature/ Miscellaneous	References	Status	Support		
(Con'd.)	Which of the following addresses are supported in the DSAP address field of TEST_CMD PDUs?					
MIS/76	— individual address	5.4.1.1.3	TES/7:O.7	N/A ☐	Yes ☐	No ☐
MIS/77	— group address	5.4.1.1.3	TES/7:O.7	N/A ☐	Yes ☐	No ☐
MIS/78	— global address	5.4.1.1.3	TES/7:O.7	N/A ☐	Yes ☐	No ☐
MIS/79	— null address	5.4.1.1.3	TES/7:O.7	N/A ☐	Yes ☐	No ☐
	Which of the following addresses are supported in the SSAP address field of TEST_CMD PDUs?					
MIS/80	— individual address	5.4.1.1.3	TES/7:O.8	N/A ☐	Yes ☐	No ☐
MIS/81	— null address	5.4.1.1.3	TES/7:O.8	N/A ☐	Yes ☐	No ☐
	Which of the following addresses are supported in the DSAP address field of TEST_RSP PDUs?					
MIS/82	— individual address	5.4.1.2.2	M		Yes ☐	
MIS/83	— null address	5.4.1.2.2	M		Yes ☐	
	Which of the following addresses are supported in the SSAP address field of TEST_RSP PDUs?					
MIS/84	— individual address	5.4.1.2.2	M		Yes ☐	
MIS/85	— null address	5.4.1.2.2	M		Yes ☐	
*MIS/86	Is Duplicate Address Checking supported?	6.9.2	O		Yes ☐	No ☐
MIS/87	—Is the ACK_TIMER function supported?	6.9.2	MIS/86:M		Yes ☐	
MIS/88	—ACK_TIMER range (seconds)			Minimum Value = Maximum Value =		
MIS/89	—Is the RETRY_COUNTER function supported?	6.9.2	MIS/86:M		Yes ☐	
MIS/90	—RETRY_COUNTER range			Minimum Value = Maximum Value =		
MIS/91	—Is the XID_R_COUNTER function supported?	6.9.2	MIS/86:M		Yes ☐	

A.7 LLC Type 2 operation—Connection-mode

CLS2a *or* CLS4a::

All tables in clause A.7 are to be completed if above predicate evaluates to true.

A.7.1 LLC Type 2—Supported PDU types

Item	Protocol feature/ Supported PDU types	References	Status	Support	
*IP/92a	I PDU supported on transmission	7.4.2	O	Yes ☐	No ☐
*IC/92b	I_CMD supported on transmission	Table 4	IP/92a:O	N/A ☐ Yes ☐	No ☐
IC/93	I_CMD supported on receipt	Table 4	M	Yes ☐	
IR/94	I_RSP supported on transmission	Table 4	IP/92a:M	N/A ☐ Yes ☐	
IR/95	I_RSP supported on receipt	Table 4	M	Yes ☐	
RRC/96	RR_CMD supported on transmission	Table 4	M	Yes ☐	
RRC/97	RR_CMD supported on receipt	Table 4	M	Yes ☐	
RRR/98	RR_RSP supported on transmission	Table 4	M	Yes ☐	
RRR/99	RR_RSP supported on receipt	Table 4	M	Yes ☐	
RNC/100	RNR_CMD supported on transmission	Table 4	M	Yes ☐	
RNC/101	RNR_CMD supported on receipt	Table 4	M	Yes ☐	
RNR/102	RNR_RSP supported on transmission	Table 4	M	Yes ☐	
RNR/103	RNR_RSP supported on receipt	Table 4	M	Yes ☐	
*RJC/104	REJ_CMD supported on transmission	Table 4	O	Yes ☐	No ☐
RJC/105	REJ_CMD supported on receipt	Table 4	M	Yes ☐	
RJR/106	REJ_RSP supported on transmission	Table 4	M	Yes ☐	
RJR/107	REJ_RSP supported on receipt	Table 4	M	Yes ☐	
SAC/108	SABME_CMD supported on transmission	Table 4	M	Yes ☐	
SAC/109	SABME_CMD supported on receipt	Table 4	M	Yes ☐	
DIC/110	DISC_CMD support on transmission	Table 4	M	Yes ☐	
DIC/111	DISC_CMD supported on receipt	Table 4	M	Yes ☐	
UAR/112	UA_RSP supported on transmission	Table 4	M	Yes ☐	
UAR/113	UA_RSP supported on receipt	Table 4	M	Yes ☐	
DMR/114	DM_RSP supported on transmission	Table 4	M	Yes ☐	
DMR/115	DM_RSP supported on receipt	Table 4	M	Yes ☐	
FRR/116	FRMR_RSP supported on transmission	Table 4	M	Yes ☐	
FRR/117	FRMR_RSP supported on receipt	Table 4	M	Yes ☐	

A.7.2 LLC Type 2—Supported parameters in PDUs on transmission

Item	Protocol feature/ Supported parameters on transmission	References	Status	Support
	Do the following PDUs contain a DSAP address, an SSAP address and a Control field as specified in the given referenced clauses?			
PPT/118a	—I_CMD	3.2, 3.3, 5.4	IC/92b:M	N/A ☐ Yes ☐
PPT/118b	—I_RSP	3.2, 3.3, 5.4	IP/92a:M	N/A ☐ Yes ☐
PPT/119	—REJ_CMD	3.2, 3.3, 5.4	RJC/104:M	N/A ☐ Yes ☐
PPT/120	—RR_CMD, RR_RSP, RNR_CMD, RNR_RSP, REJ_RSP, SABME_CMD, DISC_CMD, UA_RSP, DM_RSP, FRMR_RSP	3.2, 3.3, 5.4	M	Yes ☐
PPT/121	Do the following PDUs contain an information field? —I_CMD, I_RSP, FRMR_RSP	3.2, 3.3, 5.4	M	Yes ☐
PPT/122	Do the following PDUs contain an information field? —REJ_CMD, RR_CMD, RR_RSP, RNR_CMD, RNR_RSP, REJ_RSP, SABME_CMD, DISC_CMD, UA_RSP, DM_RSP	3.2, 5.4	X	No ☐

A.7.3 LLC Type 2—Supported parameters in PDUs on receipt

Item	Protocol feature/ Supported parameters on receipt	References	Status	Support
PPR/123	Is the receipt of a DSAP, an SSAP and a Control field supported for the following PDUs? —I_CMD, I_RSP, RR_CMD, RR_RSP, RNR_CMD, RNR_RSP, REJ_CMD, REJ_RSP, SABME_CMD, DISC_CMD, UA_RSP, DM_RSP, FRMR_RSP	3.2, 3.3, 5.4	M	Yes ☐
PPR/124	Is the receipt of an Information field supported for the following PDUs? —I_CMD, I_RSP, FRMR_RSP NOTE—Response to receipt of a PDU with an Information field that is not permitted to have an Information field is covered under Frame Reject procedures.	3.2, 3.3, 5.4	M	Yes ☐

A.7.4 LLC Type 2—Supported procedures

Item	Protocol feature/ Supported procedures	References	Status	Support
	Support of Connection Establishment			
PRS/125	—as initiator	7.4.1, 7.4.5	O	Yes ☐ No ☐
PRS/126	—as responder	7.4.1, 7.4.5	M	Yes ☐
	Support of Connection Release			
PRS/127	—as initiator (originating release)	7.4.3, 7.4.4, 7.4.5	O	Yes ☐ No ☐
PRS/128	—as initiator (rejecting connection establishment)	7.4.3, 7.4.4, 7.4.5	M	Yes ☐
PRS/129	—as responder	7.4.3, 7.4.4, 7.4.5	M	Yes ☐
	Support of Data Transfer			
PRS/130	—as originator	7.4.2, 7.5	O	Yes ☐ No ☐
PRS/131	—as responder	7.4.2, 7.5	M	Yes ☐
PRS/132	Is the Remote Busy procedure supported on receipt of an RNR PDU?	7.5.7	M	Yes ☐
PRS/133	Is the Retransmission procedure supported on receipt of an REJ PDU?	7.5.6	M	Yes ☐
PRS/134	Is the Reject procedure supported on receipt of an I PDU with an unexpected N(S)?	7.4.2, 7.5	M	Yes ☐
PRS/135	Is the Local Busy procedure supported?	7.5.8	M	Yes ☐
PRS/136	Is the Frame Reject procedure supported?	5.4.2.3.5	M	Yes ☐
	Is the Reset procedure supported?			
PRS/137	—as initiator	7.5, 7.6, 7.7	M	Yes ☐
PRS/138	—as responder	7.5, 7.6, 7.7	M	Yes ☐
*PRS/139	Is the LLC Flow Control procedure supported?	Annex B	O	Yes ☐ No ☐

A.7.5 LLC Type 2—Miscellaneous

Item	Protocol feature/ Miscellaneous	References	Status	Support
MIS/140	Do all transmitted PDUs contain an integral number of octets?	3.3	M	Yes ☐
	If the following PDUs are received from the MAC sublayer, are they treated as invalid and ignored?			
MIS/141	—contains a non-integral number of octets	3.3.4	M	Yes ☐
MIS/142	—has a length less than 3 octets (in the case of a one-octet control field)	3.3.4	M	Yes ☐
MIS/143	—has a length less than 4 octets (in the case of a two-octet control field)	3.3.4	M	Yes ☐

A.7.6 LLC Type 2—Protocol parameters

Item	Protocol feature/ Protocol parameters	References	Status	Support/Value
PPA/144 PPA/145	Is the ACK_TIMER function implemented? —ACK_TIMER range	7.8.1.1	M	Yes ☐ Minimum Value = Maximum Value =
PPA/146 PPA/147	Is the P_TIMER function implemented? —P_TIMER range	7.8.1.2	M	Yes ☐ Minimum Value = Maximum Value =
PPA/148 PPA/149	Is the REJ_TIMER function implemented? —REJ_TIMER range	7.8.1.3	M	Yes ☐ Minimum Value = Maximum Value =
PPA/150 PPA/151	Is the BUSY_TIMER function implemented? —BUSY_TIMER range	7.8.1.4	M	Yes ☐ Minimum Value = Maximum Value =
PPA/152 PPA/153	Is the N2 (Maximum Number of Transmissions) function implemented? —Number of Transmissions	7.8.2	M	Yes ☐ Minimum Value = Maximum Value =
PPA/154 PPA/155	Is the k (Transmit Window Size) function implemented? —Maximum value of k	7.8.4	M	Yes ☐ Value =
PPA/156 PPA/157a	Is the LLC flow control function implemented? —kstep range	Annex B	PRS/139:M	N/A ☐ Yes ☐ Minimum Value = Maximum Value =
PPA/157b PPA/157c	Is the RW (Receive Window Size) function implemented? —Maximum value of RW	7.8.6	M	Yes ☐ Value =

A.8 LLC Type 3 operation—Acknowledged connectionless-mode

CLS3a *or* CLS4a::

All tables in clause A.8 are to be completed if above predicate evaluates to true.

A.8.1 LLC Type 3—Supported PDU types

Item	Protocol feature/ Supported PDU types	References	Status	Support		
*AnC/158a	Are ACn commands transmitted?	8.5.1	O		Yes ☐	No ☐
A0C/158b	AC0_CMD supported on transmission	8.5.1	AnC/158a:M	N/A ☐	Yes ☐	
A0C/159	AC0_CMD supported on receipt	8.5.2	M		Yes ☐	
A0R/160	AC0_RSP supported on transmission	8.5.3	M		Yes ☐	
A0R/161	AC0_RSP supported on receipt	8.5.4	AnC/158a:M	N/A ☐	Yes ☐	
A1C/162	AC1_CMD supported on transmission	8.5.1	AnC/158a:M	N/A ☐	Yes ☐	
A1C/163	AC1_CMD supported on receipt	8.5.2	M		Yes ☐	
A1R/164	AC1_RSP supported on transmission	8.5.3	M		Yes ☐	
A1R/165	AC1_RSP supported on receipt	8.5.4	AnC/158a:M	N/A ☐	Yes ☐	

A.8.2 LLC Type 3—Supported parameters in PDUs on transmission

Item	Protocol feature/ Supported parameters on transmission	Refer-ences	Status	Support		
A0T/166	AC0_CMD—DSAP address	8.2	AnC/158a:M	N/A ☐	Yes ☐	
A0T/167	AC0_CMD—SSAP address	8.2	AnC/158a:M	N/A ☐	Yes ☐	
	AC0_CMD—					
A0T/168	—P-bit = 1 and non-null Information field	8.3	AnC/158a:O.9	N/A ☐	Yes ☐	No ☐
A0T/169	—P-bit = 1 and null Information field	8.3	AnC/158a:O.9	N/A ☐	Yes ☐	No ☐
	AC0_CMD—					
A0T/170	—P-bit = 0 and non-null Information field	8.3	AnC/158a:O.9	N/A ☐	Yes ☐	No ☐
A0T/171	—P-bit = 0 and null Information field	8.3	AnC/158a:O.9	N/A ☐	Yes ☐	No ☐
A1T/172	AC1_CMD—DSAP address	8.2	AnC/158a:M	N/A ☐	Yes ☐	
A1T/173	AC1_CMD—SSAP address	8.2	AnC/158a:M	N/A ☐	Yes ☐	
	AC1_CMD—					
A1T/174	—P-bit = 1 and non-null Information field	8.3	AnC/158a:O.10	N/A ☐	Yes ☐	No ☐
A1T/175	—P-bit = 1 and null Information field	8.3	AnC/158a:O.10	N/A ☐	Yes ☐	No ☐
	AC1_CMD—					
A1T/176	—P-bit = 0 and non-null Information field	8.3	AnC/158a:O.10	N/A ☐	Yes ☐	No ☐
A1T/177	—P-bit = 0 and null Information field	8.3	AnC/158a:O.10	N/A ☐	Yes ☐	No ☐

Item	Protocol feature/ Supported parameters on transmission	Refer-ences	Status	Support
(Con'd.) A0T/178	AC0_RSP—DSAP address	8.2	M	Yes ☐
A0T/179	AC0_RSP—SSAP address	8.2	M	Yes ☐
A0T/180	AC0_RSP—F-bit = P-bit (= 1) —with Status Subfield and non-null LSDU Subfield	8.3	O	Yes ☐ No ☐
A0T/181	—with Status Subfield and null LSDU Subfield	8.3	M	Yes ☐
A0T/182	AC0_RSP—F-bit = P-bit (= 0) —with Status Subfield and non-null LSDU Subfield	8.3	X	No ☐
A0T/183	—with Status Subfield and null LSDU Subfield	8.3	M	Yes ☐
A1T/184	AC1_RSP—DSAP address	8.2	M	Yes ☐
A1T/185	AC1_RSP—SSAP address	8.2	M	Yes ☐
A1T/186	AC1_RSP—F-bit = P-bit (= 1) —with Status Subfield and non-null LSDU Subfield	8.3	O	Yes ☐ No ☐
A1T/187	—with Status Subfield and null LSDU Subfield	8.3	M	Yes ☐
A1T/188	AC1_RSP—F-bit = P-bit (= 0) —with Status Subfield and non-null LSDU Subfield	8.3	X	No ☐
A1T/189	—with Status Subfield and null LSDU Subfield	8.3	M	Yes ☐

A.8.3 LLC Type 3—Supported parameters in PDUs on receipt

Item	Protocol feature/ Supported parameters on receipt	References	Status	Support
A0P/190	AC0_CMD—DSAP address	8.1, 8.2	M	Yes ☐
A0P/191	AC0_CMD—SSAP address	8.1, 8.2	M	Yes ☐
	AC0_CMD—			
A0P/192	—P-bit = 1 and non-null Information field	8.1, 8.3	M	Yes ☐
A0P/193	—P-bit = 1 and null Information field	8.1, 8.3	M	Yes ☐
	AC0_CMD—			
A0P/194	—P-bit = 0 and non-null Information field	8.1, 8.3	M	Yes ☐
A0P/195	—P-bit = 0 and null Information field	8.1, 8.3	M	Yes ☐
A1P/196	AC1_CMD—DSAP address	8.1, 8.2	M	Yes ☐
A1P/197	AC1_CMD—SSAP address	8.1, 8.2	M	Yes ☐
	AC1_CMD—			
A1P/198	—P-bit = 1 and non-null Information field	8.1, 8.3	M	Yes ☐
A1P/199	—P-bit = 1 and null Information field	8.1, 8.3	M	Yes ☐
	AC1_CMD—			
A1P/200	—P-bit = 0 and non-null Information field	8.1, 8.3	M	Yes ☐
A1P/201	—P-bit = 0 and null Information field	8.1, 8.3	M	Yes ☐
A0P/202	AC0_RSP—DSAP address	8.1, 8.2	M	Yes ☐
A0P/203	AC0_RSP—SSAP address	8.1, 8.2	M	Yes ☐
	AC0_RSP—F-bit = P-bit (= 1)			
A0P/204	—with Status Subfield and non-null LSDU Subfield	8.1, 8.3	M	Yes ☐
A0P/205	—with Status Subfield and null LSDU Subfield	8.1, 8.3	M	Yes ☐
	AC0_RSP—F-bit = P-bit (= 0)			
A0P/206	—with Status Subfield and non-null LSDU Subfield	8.1, 8.3, 8.7.2	M	Yes ☐
A0P/207	—with Status Subfield and null LSDU Subfield	8.1, 8.3	M	Yes ☐
A1P/208	AC1_RSP—DSAP address	8.1, 8.2	M	Yes ☐
A1P/209	AC1_RSP—SSAP address	8.1, 8.2	M	Yes ☐
	AC1_RSP—F-bit = P-bit (= 1)			
A1P/210	—with Status Subfield and non-null LSDU Subfield	8.1, 8.3	M	Yes ☐
A1P/211	—with Status Subfield and null LSDU Subfield	8.1, 8.3	M	Yes ☐
	AC1_RSP—F-bit = P-bit (= 0)			
A1P/212	—with Status Subfield and non-null LSDU Subfield	8.1, 8.3, 8.7.2	M	Yes ☐
A1P/213	—with Status Subfield and null LSDU Subfield	8.1, 8.3	M	Yes ☐